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THE INDUSTRIAL ARTS

OF

THE NINETEENTH CENTURY.

A SERIES OF ILLUSTRATIONS

OF THE

HOICEST SPECIMENS PRODUCED BY EVERY NATION

AT THE

GREAT EXHIBITION OF WORKS OF INDUSTRY, 1851.

DEDICATED, BY PERMISSION, TO HIS ROYAL HIGHNESS THE PRINCE ALBERT.

By M. DIGBY WYATT, Architect.

LONDON:

PUBLISHED BY DAY AND SON, LITHOGRAPHERS TO THE QUEEN.

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F. BEDFORD, DEL ET LITH.

LONDON, PUBLISHED MARCH 15TH 1853, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN, 17, GATE STREET, LINCOLN'S INN FIELDS.

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INDUSTRIAL ARTS

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GREAT EXHIBITION

MDCCCLI

BY DIGBY WYATT

VOL II

DAY AND SON

LITHOGRAPHERS TO THE QUEEN

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LONDON, PUBLISHED MARCH 15TH 1853, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN, 17 GATE STREET, LINCOLN'S INN FIELDS.

TO

HIS ROYAL HIGHNESS THE PRINCE ALBERT.

THE present Work aims at being a faithful record of the characteristics of those productions displayed at the Great Exhibition of 1851, which best illustrate the advanced condition of the Industrial Arts of the Nineteenth Century.

As such, it is most respectfully dedicated to Your Royal Highness, the illustrious patron of those arts, and the consistent friend of all engaged (however humbly) in their promotion,

BY YOUR ROYAL HIGHNESS'S

MOST OBEDIENT, HUMBLE SERVANT,

M. DIGBY WYATT.

77 Great Russell Street,
September 14th, 1851.

INTRODUCTION.

THE vastness of the multitudes, who have flocked to examine and derive instruction from the thousands of objects displayed at the Great Exhibition of Industry of 1851, is scarcely less remarkable, than the pertinacity with which all, whose business or inclination interests them in the great office of production, return again and again for the purpose of imprinting on their memories the aspect of works admirable for abstract perfection, or as affecting those specialties with which each visitor may be connected. A consideration of the above fact has induced the Author to believe, that a publication, in which the most beautiful objects he might be enabled to select should be reproduced, through the best means of graphic representation available in the present day, could not fail to be at once useful and popular.

It has been remarked, that in History a great combination of circumstances has rarely occurred without having been accompanied by the developement of a master mind, the native powers, of which, moulded to specific form by those circumstances, have in turn reacted upon the conjunction of events, and so created those turning points of Story which survive conspicuous, while all around is lost in darkness and obscurity. It is from the traditions of such epochs that Historians have been enabled to furnish living pictures of past events. In Art it is a no less regular phenomenon, that whenever the æsthetic tendencies of nations have demanded the embodiment of some great transitional phase of imagination, the fitting artist has seldom failed to erect correspondent monuments, thereby setting up beacons by which after ages, in looking back over the intervening sea of time, have been enabled to recognise the great features of physical and mental eccentricity, stamped on every crumbling relic of tower, tomb, temple, basilica, mosque, church, god, saint, or prophet.

In Industry, an analogous coincidence has obtained between the mental and physical requirements of nations, and the developement of appropriate manufactures,—the forms

and processes of which have been from age to age commemorated on great occasions, the records of which may be regarded, as those of the festivals of contemporaneous labour. There can be little doubt, that what the Olympic Games, and the Imperial solemnities and triumphs were to Greece and Rome, her Expositions have been to France. As the traditions of the industrial arts of Greece and Rome faded away, and new processes were developed by the Christian element, the carvers, the painters, the embroiderers, the mosaic workers and goldsmiths of Byzantium, held their festival in the inauguration of Santa Sophia. In the glorious feasts of Haroun el Raschid, the Oriental variations from Greek practice asserted their independent existence. The sum of the modifications induced, by lapse of years, on the fountains of art-workmanship springing from those sources, were respectively represented in the inauguration of the cathedral of Saint Denis and the mosque of Corduba,—the former illustrating the nascent processes of Gothic, the latter of Moorish art—the former of these two series of processes to accomplish their destiny, and reach their climax, in the construction of Cologne Cathedral, the latter in that of the Alhambra. The great religious anniversaries of the middle ages were so many vast fairs at which Exhibitions of Industry took place,—the glorious festivals and *mascherate* of Sienna, Florence, Pisa, and Venice, were celebrations of the first triumphs of commercial enterprise, and their records perhaps better illustrate conditions of mediæval supply and demand than those of any other states throughout Europe.

The revival of the forms of ancient art, through the study of the relics bequeathed by it, soon extended its influence over manufacture, and in the completion of the Sistine Chapel and the commencement of St. Peter's the principle of such a revival was publicly acknowledged and celebrated in Italy. In the meeting of Henry VIII. and Francis I. on the Field of the Cloth of Gold, and in the triumphs of Maximilian, the extension to France, to England, and to Germany, of the arts and types of form peculiar to the period of the Renaissance, must be fully recognised. Working on the basis of that revival, manufactures and designs for manufactures gradually dwindled into an unsatisfactory condition, and we look in vain for any very important mark of change until the genius of Colbert arose, invigorating the whole commercial system of Europe. The foundations of many improvements in production, secured by that profound minister for France, were gradually worked upon until originality was attained; and the impetus so given to graceful, although *bizarre* design, was communicated by France to the other nations of Europe, and thence originated the shoals of scroll-work *Rocaille*, which overspread every object manufactured in this country during the last century.

The progress of production thus elaborated in France, at length, and at its

culminating point, demanded some distinct enunciation; and it was accordingly in the first Parisian "Exposition" of 1797 that the triumphs of the old school of Sèvres, of Boule, of the Gobelins, &c., were achieved. The utility of exhibitions, as healthy stimulants to Industry, was thereby so manifested, that they have been repeated under every form of government which has since prevailed in France; and in their records an interesting narrative of the rapid growth of human ingenuity, in the hot-bed of modern civilisation, is to be met with. The almost incessant wars which so long devastated Europe, and which only terminated in 1815, impeded the culture of those arts which have been emphatically designated the "Arts of Peace." Those wars, however, had no sooner terminated than an extraordinary activity was manifested, more especially in this country; and on looking back over the last six-and-thirty years, elements of change must be found to have been introduced, calculated to derange the whole previous system of fabrication and demand. The extension of the application of steam, gas, &c. to the thousand purposes upon which they are now brought to bear, have scarcely less affected National Industry by changing the conditions of supply, than has the spread of popular education by entirely altering the nature and peculiarities of demand. The most remarkable feature of the movement to which we are alluding—that, namely, which has taken place in this country during the last six-and-thirty years—is the universality of developement attained by combining the division of labour in manufacture with the aggregation of its results in commerce. Sympathising, on the one hand, with the highest excellence both of art and manufacture, modern English production has, on the other, effected a concurrent and unprecedented reduction in price. An amount of thought and ingenuity equal to the origination of many of the monster engineering works which form the pride, the boast, and the glory of the present day, has been bestowed upon an attempt to reduce the cost of a common cotton print the fraction of a farthing per yard. Other nations have not been idle while England has worked, and it is, therefore, little wonderful that, under the action of a progress worthy to have enlisted the pens of men such as Babbage, Brougham, Macculloch, Porter, &c. to record, the great festival, in which that progress finds its tangible embodiment, should speak eloquently, chronicling the race which has been run by all nations for pre-eminence in a glorious, though peaceful, competition.

Were it but possible now to procure some pictures vivid enough to recall a series of the principal elements and objects which adorned those triumphs of industry of past ages to which allusion has been made, how interesting and improving would the examination of such collections be: as it is, years of study must now be given to realise in any

degree the tangibilities of history, of which, unfortunately, too few indications have survived to our day. That it is incumbent on every age to leave to its successor the best possible data as to the fruits of its labours and experiences, few will feel disposed to deny; nor will they, probably, be less likely to admit, that if ever an occasion existed, worthy of the best record the art of the nineteenth century could create, that occasion most assuredly is to be met with in the Great Exhibition of Works of Industry of 1851.

In the choice of the subjects for illustration the Author will not, it is hoped, expose himself to the charge of having made in any way an invidious selection, or be supposed to pledge himself to an expression of opinion on relative merits. His aim has been to engrave such specimens as he believed would be likely to be practically useful in naturalising among us improvements in purity of form or colour; in placing in juxtaposition the excellencies of various nations; in furnishing models for manufacturers to study and surpass; and by means of which the Public may be enabled hereafter to test the future progress of Industrial Art in this and other countries.

CLASSIFIED LIST OF SUBJECTS.

SECTION I.—SCULPTURE.

No. of Plate.		
17	The Hunter	By Gibson, R.A.
133	The Hours leading forth the Horses of the Sun	Gibson, R.A.
53	Andromeda	John Bell. Cast in bronze by the Coalbrookdale Co.
77	A Youth at a Stream	Foley, A.R.A. Cast in bronze by Hatfield.
33	Richard Cœur de Lion	The Baron Marochetti.
25	Victory	Rauch, Berlin.
1	The Amazon	By Kiss, Berlin.
5	The Christ Child ("Christ Engel")	Rietschel, Dresden.
29	Cupid and Panther	Rietschel, Dresden.
49	The Pleasures of Public Gardens	Drake, Berlin.
37	The First Step	Magni, Milan.
61	The First Cradle	De Bay, Paris.
13	A Group in Bronze	Vittoz, Paris.
57	The Hunter fighting with the Panther	Jerichau, Copenhagen.

SECTION II.—METAL-WORK.

English Gold and Silver Plate and Jewellery.

27	Vase in Silver	Hunt and Roskell, London.
41	Group of Church Plate	Skidmore, Coventry.
46	Group of Plate	Garrard, London.
66	Gold Vase, enriched with Jewels and Enamels	Watherston & Brogden, London.
82	Jewellery, in the Mediæval Style	Hardman, Birmingham. Designed by Pugin.
98	Silversmiths' Work	Gough, Birmingham.
117	Portion of a Shield in Silver	Vechte; for Hunt & Roskell, Lond.

Electrotype.

79	Table and other objects	Elkington & Mason, Birmingham.
138	Shield	Elkington & Mason, Birmingham.

Foreign Plate.

35	Centre-piece in Silver	Wagner, Berlin.
73	Portion of a Silver Shield. Presented by his Majesty the King of Prussia to H.R.H. the Prince of Wales, on the occasion of his Baptism	Designed by Cornelius, Berlin.
93	Statuette in Ivory and Objects in Gold and Silver	Froment-Meurice, Paris.
111	Jewellery	Rudolphi, Paris.
113	Chocolate Cup in Silver	Lebrun, Paris.
137	Group of Silversmiths' Work	Froment-Meurice, Paris.
153	Specimens of Silversmiths' Work	Marrel, Frères, Paris.

Enamels.

51	Group from the	Royal Manufactory at Sèvres.
107	Vase and Dish	Morel; for Webb, London.
127	Group of Chinese Enamels.	
145	Group of Objects	Morel, London.
156	Vase	Hunt and Roskell, London.

Damascening.

3	Dagger and Sheath	Zuloaga, Madrid.
8	Pistols (engraved and inlaid)	Zuloaga, Madrid.
151	Group of Objects	Falloise, Liège.

Iron and Steel.

19	Fountain and Ornamental Gates	Coalbrookdale Company.
99	Stove	Hoole, Robson, & Hoole, Sheffield. Designed by A. Stevens.
101	Daggers and Sheaths	Wostenholm & Son, Sheffield. Designed by A. Stevens.
106	Stove, in the Mediæval Style	Hardman, Birmingham. Designed by Pugin.
121	Home Stove and Fender	Stuart and Smith, Sheffield.
122	Details of Home Stove and Fender	Stuart and Smith, Sheffield.
129	Portions of Stoves	Hoole, Robson, & Hoole, Sheffield. Designed by A. Stevens.
39	Fountain in Iron	André, Paris.
105	Shield in Iron	Lepage Moutier, Paris. Designed by Vechte.

Brass, &c.

43	Bedstead	Winfield, Birmingham.
94	Open-work Panel	Bailey and Co. London.
134	Standard Lamp	Winfield, Birmingham.
139	Pendant Lamp	Matifat, Paris.
85	Group of Chinese Bronzes, inlaid with silver wire.	

SECTION III.—TEXTILE FABRICS, LACE, AND EMBROIDERY.

22	Silk Brocades	Campbell, Harrison, and Lloyd, and Vanner and Son, Spitalfields. (For Howell, James, and Co., London.)
60	"The Coventry Ribbon," and Specimens of Ribbons from St. Etienne.	
87	Figured Silk	Campbell, Harrison, and Lloyd, Spitalfields. (For Lewis and Allenby, London.)
119	Figured Silk	Mathevon and Buvard, Lyons.
92	Portions of Shawls	Roxburgh and Co. Paisley.
70	Damask Table-covers	Beveridge, Dunfermline.
91	Printed Table-covers	H. and T. Wood, London. From Designs by Miss A. Carey.
120	Block-printed Table-cover	Evans and Co. London.
64	Portières of printed Mohair	Lees and Co. London.
116	Chintz Pattern	Japuis and Son, Paris.
26	Printed Muslins	Depouilly and Co. Paris.
108	Carpet, in the Mediæval Style	Crace, London. Designed by Pugin.
132	Axminster Carpet	Jackson and Graham, London.
148	Axminster Carpet	Watson, Bell, and Co. London.
30	Black Lace Flounce	Greasely & Hopcroft, Nottingham.
102	Machine-made Lace	Heyman & Alexander, and Birkin, Nottingham.
146	Specimen of Lace	Miss Jane Clarke, London.
154	Specimens of Honiton Lace	Mrs. Treadwin, Exeter.
47	Embroidered Book-cover	French, Bolton, Lancashire.
4	Embroidery in Bullion, from Tunis.	
10	Specimens of Turkish Embroidery.	
20	Specimens of Russian Embroidery.	
76	Greek Embroidery.	
80	Albanian Costume Embroidery.	
123	Embroidered Bags from Greece.	
144	Specimens of Swiss Embroidery.	

SECTION IV.—PORCELAIN, GLASS, AND EARTHENWARE.

No. of Plate.		
11	Group of Vases, &c. . .	By Minton, Stoke-upon-Trent.
147	Group of Objects in Porcelain . .	Copeland, London and Stoke-upon-Trent.
58	Renaissance Vase and Dish in Parian	Minton, Stoke-upon-Trent.
67	Luca della Robbia Friezes . .	Minton, Stoke-upon-Trent.
81	Flower-stand	Minton, Stoke-upon-Trent. Modelled by the Baron Marochetti.
89	Objects from a Dessert Service presented by her Majesty the Queen to the Emperor of Austria . .	Minton, Stoke-upon-Trent.
97	Terra-cotta Figure of Galatea and Majolica Garden-Vases . . .	Minton, Stoke-upon-Trent.
128	Pavement in Encaustic Tiles . .	Minton, Stoke-upon-Trent.
74	Vase in Terra-cotta . . .	Modelled by John Thomas, London, for E. L. Betts, Esq.
14	Vase, "La Gloire" . . .	Royal Manufactory at Sèvres.
31	Vase, "Rimini"	Royal Manufactory at Sèvres.
115	Pendant Lamp in Porcelain .	By The Royal Manufactory, Sèvres.
6	Group of Vases in Beauvais ware .	Mansard, Voisinlieu, near Paris.
45	Fountain in Terra-cotta . . .	March, Thiergartenfelde, near Charlottenburg, Prussia.
55	Stove in White Porcelain . .	Hoffman, Berlin.
78	Vase in White China . . .	Jouhanneaud & Dubois, Paris.
18	Group of Objects in Glass . .	Bacchus, Birmingham; Green, and Apsley Pellatt, London.
23	The Crystal Fountain . . .	F. & C. Osler, London & Birmingham.
110	Group of Objects in Glass . .	Apsley Pellatt, Naylor, & Green, London.
38	Group of Glass	Count Harrach, Bohemia.
86	Stained Glass	Wailes, Newcastle-upon-Tyne, and Chance, Birmingham.
114	Specimens of Stained Glass . .	Lusson, and Gerente, Paris.

SECTION V.—ARCHITECTURAL DECORATION, FURNITURE, WOOD AND IVORY CARVING, ETC.

136	Decoration derived from the Alhambra; being a portion of the Cabinet of the Queen of Spain at Aranjuez .	Rafael Contreras.
63	Decoration of an Apartment . .	John Thomas, London.
141	Painted Arabesque . . .	Crace; with Decoration in Composition, by Jackson & Sons, London.
142	Altar and Reredos	Myers, London, and Hardman, Birmingham. Designed by Pugin.
42	Paper-Hanging	Hinchliffe & Co., Chelsea.
71	Paper-Hanging	Woollams, London.
95	Paper-Hanging	Townsend and Parker, London.
100	Paper-Hanging	Mader, Frères, Paris.
55	Pilaster in Carton-pierre . .	Cruchet, Paris.
15	Window Ornament, from Tunis.	
34	Ornamental Gun-stand, from Tunis.	
54	Chinese Looking-glass in carved Wood Frame.	
9	The Massacre of the Innocents, carved in oak	Geerts, Louvain.
69	Niche and Figure, carved in wood .	Knecht, Paris.
62	Group of Flowers, carved in wood .	Wallis, Louth, Lincolnshire.
130	Cradle, carved in boxwood . .	Rogers, London, for her Majesty the Queen.
75	Bedroom Furniture, in marquetry .	Trollope, London.
152	Sideboard and Furniture . . .	Snell, London. Designed by the Baron Marochetti.
143	Sideboard, carved in Oak . .	Jackson and Graham, London.
150	Group of Furniture . . .	Snell, London.
90	Cabinet in Oak, with brass panels .	Crace, London. Designed by Pugin.
59	Pianofortes	Collard & Collard, London.
83	Marquetry Enrichments of a Pianoforte	Broadwood, London.
131	Decoration of a Box of Water-Colours	Ackermann and Co. London.
158	Bedstead in Zebra-wood . . .	Leistler and Son, Vienna.
7	Escrutoire in White Wood . .	Wettli, Berne.
21	Cassette, or Jewel-case, carved in Ivory	Matifat, Paris.
155	Cabinet in Ebony	Lienard, Paris.
126	Panel, ornamented with Buhl . .	Fourdinois, Paris.
50	Candelabrum and Arabesque . .	Trentanove, Rome.
103	Florentine Mosaic	Woodruff, Bakewell.
	Enamelled Slate	Magnus, Pimlico.
118	Jade-stone Vases, from China.	
52	Bookbinding and Inlaying . .	Batten, Clapham.
96	Bookbinding	J. and J. Leighton, London. Designed by W. Leighton.
109	Book-cover in carved Ivory, presented to her Majesty the Queen by the Emperor of Austria.	

SECTION VI.—OBJECTS FROM INDIA.

24 Kincob Pattern, woven at Ahmedabad.
28 Cashmere Scarf-end.
72 Kincob Pattern.
12 Embroidery, from Dacca.
16 Elephant Trapping.
36 Embroidered Boot-front, Scindian manufacture, from his Highness Meer Ali Moorad.
44 Shawl, from Delhi, the pattern worked on a Cashmere ground.
48 Scarf-end, embroidered at Dacca, on white muslin.
56 Embroidery, in white silk on black net, from Dacca.
84 Embroidery, on black cloth.
88 Embroidery, on crimson silk.
140 Bullion Embroidery.
124 Enamelling, from Arms.
135 Decoration of Metal-work, from Arms.
152 Group of Objects, principally enamelled.
2 Painted Lacquer-work, from Lahore.
32 Lacquer-work.
112 Lacquer-work, from Cashmere.
157 Ivory Throne and Footstool, presented to her Majesty the Queen by his Highness the Rajah of Travancore.
40 Group of Crystal Vases and Jewellery.
104 Decoration of Saddle-cover.
68 Borders from Illuminated Manuscripts.
149 Enrichments from Manuscripts.

POSTSCRIPT.

In bringing to a conclusion his arduous labours of the last eighteen months, the Author of the present Work cannot but indulge a feeling of almost parental anxiety in finally committing it to the tender mercies of the world. He would fain, at least, furnish it with such a letter of introduction, as may set forth to those who may hereafter make its acquaintance the circumstances connected with its origin, growth, and maturity.

An allusion to those circumstances, somewhat more in detail than is usual, may, he trusts, be justified by the consideration that the present Work is the most important application of Chromo-Lithography to assist the connexion which should subsist between Art and Industry which has yet appeared; and, further, that it has been produced upon a scale of magnitude, and with a degree of rapidity, unexampled in this or any other country. A knowledge of the circumstances referred to may tend, at the same time, in some degree to mitigate the severity of the atrabilious critic, and to enlist the sympathies of the more kindly disposed. In the month of April 1851 the present publication was not even thought of; and, when the number of elaborate plates produced within the short space of time which has since elapsed is borne in mind, some allowance may be made for occasional imperfections.

Shortly after the opening of the Great Exhibition the Publisher called upon the Author, and, stating his desire to demonstrate, upon a great scale, the capabilities of colour-printing as an auxiliary to industrial education, requested him to undertake this Work. The offer was immediately accepted, and the general scheme to be carried out was drawn up and matured on the same day. The task of selecting from the infinitely varied objects contributed to the Exhibition, such as appeared best to represent specific interests in manufacture, or to suggest models for study and imitation, was then commenced; and it must be obvious that, where so much presented itself on every side to arrest attention, it was a matter of considerable delicacy and difficulty to arrive at a determinate conclusion. The subjects of the plates, however, having been selected, the next step was their arrangement in such groups as were calculated to display most agreeably their relative excellencies. No less than twenty talented draftsmen were immediately set to work in making elaborate studies, under the Author's

constant superintendence; and among them may be named Mr. Sliegh, Mr. Smallfield, Mr. Clayton, Mr. Pozzi, Mr. Delamotte, Mr. Michael, Mr. Butler, Mr. Thomas, Mr. Maye, Mr. Rafter, Mr. Hayes, Mr. Pidgeon, Mr. Dalziel, Mr. Aglio, Mr. Humphreys, Mr. Vinter, and Mr. Millais. Some apprehension at first existed that it would be impossible to procure a sufficient number of satisfactory drawings within the necessarily short time fixed upon for commencing the publication without having recourse to foreign artists; but the energetic exertions and great ability of the above-named gentlemen soon rendered it apparent that no such necessity would exist.

As soon as a certain number of drawings had been completed, the work of transferring them to stone commenced; and, as many of our readers may possess but imperfect ideas of the labour involved in this operation, we shall dwell for a few moments on the processes which are indispensable.

For the purposes of Lithography the original drawing requires, in the first instance, to be carefully traced. It is then retraced, or transferred to the stone, by interposing between the surface of the latter and the drawing a sheet of thin paper, prepared on the side next the stone with red chalk. The lithographer then draws upon the stone with a greasy chalk or ink, as the case may be, the whole of the outline of the subject, and as much of the shading as he may think necessary. On the conclusion of this drawing in black and white, the stone is sent to the printer, who, after chemically preparing it for the operation, takes off carefully as many impressions as there are colours required to perfect the polychromy of the original drawing. These impressions on thin paper are laid, whilst yet moist, upon a corresponding number of supplementary or colour stones, and passed through the lithographic press. By this means the outline of the first or key-stone is printed off upon each of the remaining stones of the series, and the artist is provided with an outline upon the latter, identical with that which existed upon the key-stone. Carefully analysing the amount of each colour in the original drawing, and noting the points of its predominance,—where, in some cases, it is allowed to appear pure, and in others to enter only into the composition of broken tints,—the artist proceeds to indicate upon each stone, in black chalk or ink, the requisite amount for each separate colour. Great care is required to bear in mind the succession of these tints, and to make due allowance for it, since it is obvious that the last printed, by its greater or less degree of opacity, may tend to kill all that has been done before. Great attention is likewise required in order that, when the various stones are worked together, the filling in of one colour shall exactly meet the space occupied by another, without either overlapping and producing dark edges, or leaving white lines or gaps between each tint.

Supposing the artist's work to have been satisfactorily terminated, much now depends upon the printer. Considerable hazard is incurred in the chemical preparation

of the stone, since, if washed with acid of too great a strength, all the delicate lines will disappear; or, if etched with too weak a solution, there will be a general tendency in the tints to clog up and become overcharged. Still greater difficulties present themselves in so attaching the paper upon which the impression is taken to each of the stones, as to cause the successive colours to fall into exactly their proper places, or, in technical language, to cause the stone to "register" well. Considerable practice is necessary before the requisite amount of dexterity can be attained in this respect; and few but those who have stood beside the press, and watched its practical manipulation, would give the workman credit for the degree of skill which is essential to a successful carrying out of this part of the operation. Where great rapidity is indispensable, these difficulties are materially increased; because, if any colour be too heavily printed, it will take so long to dry that it will for some time be impossible to work off the remaining tints upon the same impression.

The qualities presented by the plates in the present work will, we sincerely believe, do infinitely more honour to the reputation of the lithographic artists engaged in their production than any eulogy which could be pronounced upon their works by the Author. He is, however, personally, glad to have this opportunity of returning his best thanks to Mr. Francis Bedford, Mr. Sliegh, and Mr. Vinter, gentlemen to whose refined taste and brilliant powers of execution the illustrations are mainly indebted for their artistic excellence. Of the total number no less than one hundred and nine subjects have been produced by Mr. Bedford and his assistants. Many plates of great merit have been executed by the artists permanently attached to the establishment of the Publisher.

It was originally intended to divide the work into thirty-eight parts, each containing four plates, to be delivered to the public at intervals of a fortnight. The work was also issued in five divisions, each comprising eight parts; and, in order to render these divisions of equal extent, it was found necessary to increase the number of parts to forty, embracing, in the whole, 160 plates. The first number appeared on the 1st of October, 1851, and the last will have been published on the 7th of March, 1853.

We may add a few details of the printing-office, to show the great extent of the labour which has been involved in carrying out this publication, and the consequent difficulties in keeping faith with the public, which have been surmounted by the indefatigable energy and perseverance of the Publisher. The greatest number of printings for any one subject has been 14, and the average number 7. The edition printed has amounted to 1300 copies. Hence, to keep pace with the demand (each colour requiring a separate impression), the printer has had to pull the work through the press no fewer than 18,000 times, on an average, per week, amounting in the whole period to 1,350,500 pulls, after every one of which the stone requires to be carefully cleaned, and the paper readjusted for "register." It may be readily believed

that the "plant" locked up in such a work as the present is very extensive, since it has required 1069 stones, weighing in all about 25 tons. The weight of paper consumed in the lithographic department has not been less than 17,400 lbs.; and the organisation of the business details of the work has engaged the almost undivided attention of four or five superintendants; among whom may be especially noticed Mr. W. WALKER, whose exertions have truly been unceasing.

The letterpress, extending to nearly 350 folio pages, has been most carefully executed by Mr. BARCLAY, of Castle Street, Leicester Square, and assiduously watched through the press by his intelligent overseer, Mr. STRANGEWAYS.

The labour of providing in such rapid succession a series of literary notices to accompany every plate — notices in which an endeavour has constantly been made to condense as much information as could be obtained, not only concerning the subject engraved, but the history and other peculiarities of the art of which it formed a specimen — has necessarily been considerable, the great variety of the subjects entailing no trifling amount of study and research. In these labours the Author has frequently received valuable aid from gentlemen practically interested in art and manufactures, and such obligations he has invariably recorded in the body of the work. It remains for him only, further, to express his gratitude to four gentlemen who have laid him under more especial obligations. To Mr. T. EVERALL JONES he is indebted for constant attention and sympathy. By availing himself of his talent as a shorthand-writer, the Author has alone been enabled to accomplish his task, the majority of the articles having been written from dictation; while to his acquirements as a student, and to his literary abilities, the work is indebted for no less than thirty-seven articles; among which may be especially mentioned the valuable series on the Commerce of India; on the Trade of Sheffield and Birmingham; and on English Porcelain, Earthenware, and Carpets. From his friend and pupil, Mr. W. BURGES, the Author has derived fourteen articles, among the more important of which may be pointed out those on English Furniture, on Stained Glass, and part of the series on Enamels, and Damascening. Mr. C. FOWLER, in addition to assisting the Author with occasional extracts from German works, has contributed three valuable articles, respectively on Encaustic Tiles, on German Stoves, and on Terra Cotta. Mr. T. HAYES has furnished two articles, one on Paperhanging, and one on Florentine Mosaics. For the remainder of the work, rather more than one hundred notices, the Author is alone and entirely responsible.

March 7th, 1853.

M. D. WYATT DIREXT. J. A. VINTER DEL.T ET LITH.

THE AMAZON

BY KISS OF BERLIN

PLATE I.

THE AMAZON.

BY KISS.

This magnificent group, in which the boldest conception and treatment of a grand idea are tempered by an exquisite appreciation of beauty and refinement of execution, is probably the noblest work of art now existing, in which man has displayed the mastery his intelligence has enabled him to gain over the "stubborn metals." As such it has been selected to form the subject of our first plate.

The merits of an object, upon the production of which so high an order of imagination and realisation have been brought to bear, are so evident, that minute criticism becomes inapplicable, and would only interfere with that broad impression of delight which should be conveyed to the mind by the contemplation of so grand a manifestation of the power of art. Instead, therefore, of dwelling on its many great beauties, or on its few defects, we shall prefer giving a short account of the rapid developement of that branch of industry in Prussia, of which it is so fine a specimen.

The original model for this group, when made by Professor Kiss, then an artist comparatively unknown, excited so much enthusiasm and admiration as to lead to the formation of a subscription fund to defray the expenses of its reproduction in bronze. In the year 1839 the great casting was successfully made, the group was presented to the King of Prussia by the subscribers, and was placed in front of the Royal Museum at Berlin, where it now remains, a monument worthy to adorn a capital, to the beauty and grandeur of which men such as Schinkel, Rauch, and Cornelius, have contributed in their respective arts.

The impetus which the execution of the great works in bronze of Cellini gave to the advancement of the art of casting in that metal spread into all the countries of Europe, and among others into Prussia. In that country many remarkable monuments were executed, but towards the year 1700 the processes fell to a great extent into disuse: as late, however, as 1713, statues, in the formation of which the method detailed by Cellini was strictly followed, were cast at Berlin by Jacobi.

For about one hundred years the art seems to have been lost altogether in Prussia, since it was not until the year 1818 that the Parisian founder Lequine was invited to Berlin by Schadow, who was then Director of the Royal Academy of Fine Arts. The first casting executed by Lequine was after his patron's statue of Luther, which was ordered for the birthplace of the great Reformer. Quickly in succession then came the statues of Blucher by Schadow, and many important works by Rauch. All these were executed at the royal foundry, and by them the foundation was laid of a flourishing branch of industry. Private speculation began to take the subject up, and many excellent castings were executed by Hopfgarten. A school was established by the Institute of Industry to educate workmen, but, owing to the untimely death of its Professor, it failed to effect the good which might have been expected to result from its operations. Messrs. Dinger and Feirabend, both intelligent young artists, were sent to Paris by the above-mentioned Society, and on their return executed many works successfully. By the former were completed the principal parts of the beautiful fountain which Schinkel designed and Kiss modelled. Several French artists and engravers, such as Coué and Gonon, contributed by their beautiful chasing to the perfection of the principal works cast in Berlin. Under these French artists there studied a young German, a native of Culmbach, who came to Berlin in the year 1818. Christoph Heinrich Fischer immediately distinguished himself by his talent, and was soon employed to realise,

in bronze, some of the finest productions of Tieck and Rauch. The reputation he acquired by his execution of these important works, induced the subscribers to the fund for causing the group which forms the subject of our present notice to be cast in bronze, to place that great work in his hands; and every visitor to Berlin bears testimony to the perfection with which he honoured the trust reposed in him. In that masterpiece of bronze-work the climax of the art has been attained, and Fischer has placed himself on a level with Stieglmeyer and Miller, the celebrated founders of Munich.

The group which now stands in the Great Exhibition is a facsimile of Fischer's bronze, executed in zinc by M. Geiss, of Berlin, and bronzed over by a process employed by himself alone.

It is only of late years that zinc has been applied to furnish the material of works of art in any country, and considering that the first attempt in the Royal Iron Foundry of Berlin was only made in the year 1832, the progress since that year is truly remarkable. The great mind of Schinkel was one of the earliest to perceive the capabilities of this material to minister to the requirements of art, and in a memorandum of his, dated the 3d of May, 1840, he eloquently urges its immediate adoption as a substitute for bronze, &c. The Prussian public were not slow to avail themselves of the beautiful objects which issued from the foundries of M. Devaranne and of M. Geiss, the two most distinguished proficients in the processes of fabrication. The finish of the group of the Amazon, which, as we have stated, was cast by M. Geiss, must convince every one that Schinkel's anticipation of the perfection to which the manipulation of zinc might be carried was by no means unreasonable.

Much as the works of such sculptors as Rauch and Kiss must endear them to all lovers of art, in those who have ever had an opportunity of becoming acquainted with the artists themselves, the manly openness, dignity, and modesty of the two great men, and their true and unaffected enthusiasm for the good and beautiful, must have excited feelings of yet higher respect and yet deeper interest.

W. E. FOZZI. DEL.

M. DIGBY WYATT. DIR.T

F. BEDFORD. LITH.

SPECIMENS OF PAINTED LACQUER WORK FROM LAHORE

LONDON. PRINTED AND PUBLISHED SEPTR 1851, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE II.

SPECIMENS OF PAINTED LACQUER-WORK FROM LAHORE.

The possession of the substance known in commerce as "lac," and of vegetable oils, which, with scarcely any preparation form natural varnishes, has given rise, in Japan, China, and many districts of India, to that branch of manufacture generally known as "lacquer-work." The term, however, is a very vague one, since under it are usually comprehended not only objects in the production of which many various processes of the application of "lac" are involved, but many other articles, into the formation and decoration of which it is not likely that any particle of that material really enters. The substance "lac" is an exudation from various trees, mostly of the fig species. A peculiar insect, the *coccus ficus*, perforates the tender bark of the smaller branches and shoots, for the purpose of depositing its eggs. About the perforations thus made a milky liquid coagulates, which, solidifying on exposure to the air, forms a resinous covering entirely surrounding the bough, and embalming the insects, as flies are embalmed in amber. The thin coating when separated from the twigs becomes "stick-lac." When boiled in water and broken up, it becomes "seed-lac;" and when melted and reduced to thin sheets, it constitutes what is known as "shell-lac."

"Lac" possesses two distinct properties of great commercial value, since, while as a resin it is of unequalled purity, it derives from the insects embedded in it colouring matter, which is of the greatest value in the production of a red dye. The colouring matter is obtained from "stick-lac," probably by a dissolution in some alkali and the admixture of alum, causing a precipitate, which, when formed into small square cakes and dried, constitutes "lac-dye," a substance which has been very largely imported into this country for many years.

"Shell-lac" enters into the composition of the best sealing-wax, possessing the property of melting without charring on the application of heat.

In one variety of Indian and Chinese "lacquer-work," a kind of sealing-wax is spread to a considerable thickness on wooden boxes or cabinets, and is then worked over with patterns indented, with slightly heated stamps, into the external coating, and then finished with cutting tools.

In another variety, that generally known in this country as old japan-work, the lac, dissolved in spirit or essential oil, forms a varnish, which being applied to wood or papier-mâché in successive coats produces at last a beautiful smooth surface. Upon this surface, when dry, any amount of ornament may be painted with varnish, over which gold or bronze dust being powdered, adhesion to the wet varnish only takes place where the pattern has been traced; and thus were produced the cabinets and boxes which formed the favourite decorations of saloons in the days of Hogarth and the "Spectator," exciting the liveliest competition among the fair frequenters of the celebrated old china auctions.

The gilding of those cabinets was sometimes executed partly in leaf-gold, and partly by the above process of powdering. The contrast of the two textures, heightened by partial burnishing, and occasionally lowered by tinted varnishes, was productive of very happy effects, which might be successfully imitated in the present day. Frequently thin veneers of mother-of-pearl and ivory were made to adhere to the surface by the employment of the "lac" as a cement, and by such additions the richest effects were produced.

In the decoration of the elegant boxes from which the illustrations shown in Plate No. II. have been taken, little, if any, lac has been used. The wood forming the basis upon which the patterns have been executed, has been covered over with a ground probably of plaster and white of egg or size, similar in composition to

the *intonaco*, or coating made use of by the early Italian painters, and known as *gesso*. Over this ground has been spread a wash of some rich vegetable oil, or possibly of lac dissolved in spirits. Upon this coating, known in China as *tong yeou*, the painting is executed. On the completion of the painting a number of thin coats of beautifully clear varnish have been applied, in order to bring the whole to that fine hard polish for which such works are celebrated. Occasionally in this variety of work raised ornaments are produced by stamping the ground before it has set and become hard, in a manner similar to that in which the early painters of the Florentine and Siennese schools loved to decorate the *nimbi*, &c., surrounding the heads of the saints.

Articles executed by the above process are frequently imitated in a coarse way, by substituting for the plaster and white-of-egg ground a coat of thick white paint, on which patterns of less delicacy and grace are then painted. A final coat of lac varnish preserves the painting, and brings the surface to a state quite good enough for the common class of objects, to which this decoration is most frequently applied.

As other specimens of "lac-work" will be given in succeeding numbers, we shall reserve our notices of the knowledge of art displayed in their arrangement, simply calling the attention of the fair sex, and of the Coventry manufacturers, to the beautiful ribbon patterns suggested by these exquisite borders.

DAGGER AND SHEATH IN THE DAMASCENE WORK
BY ZULOAGO OF MADRID

LONDON PRINTED AND PUBLISHED SEPTR 1851 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE III.

A HUNTING-KNIFE AND SHEATH,

EXHIBITED BY D. E. ZULOAGA, OF MADRID.

The reputation acquired by Spain for the manufacture of admirable steel may be traced to a remote period, since in the time of Polybius we learn that the *hastati*, or Roman spearmen, carried upon their hips Spanish swords. The manufacture appears to have been early carried on both at Toledo and Bilbao by the Spaniards, who possessed the raw material in its highest perfection in the rich mines of Biscaye, and in many other parts of the country. From the refined knowledge of the art of metal-working early acquired by the Saracenic race, of which such ample evidence is given by the wide-world celebrity of the Damascus blade and the exquisite Moussoul inlaying, there can be no doubt that Spain acquired those processes which caused her weapons to be eagerly sought after throughout the middle ages. From A.D. 712, when Toledo was taken by Tarik Ibn Zeyyad, after the battle of Guadalete, until A.D. 1085, that city, with the exception only of Corduba, ranked as the principal centre of Moorish intelligence and magnificence; and when, as the earliest as well as the most important see in the Peninsula, it subsequently became the residence of the Castilian kings, its population increased to 200,000, and its fabrication of arms extended coincidently. During the middle and latter portion of the fifteenth century the royal manufacture was at its highest state of perfection, and rivalled successfully the celebrated establishments of Ferrara and Milan. In the Hôtel Clugny collection at Paris, and in the "Armeria Reale," at Madrid, evidence of the perfection of the national workmanship of that period may be traced. In the latter collection especially, a tolerably complete chronological succession of objects may be found, illustrating the mingling of Moorish with Spanish design and process, at various points in the history of the two races.

The specimens of sword and dagger blades exhibited by the Royal Ordnance of Toledo, and the exquisite damascene work of Signor Zuloaga, bear testimony to the fact, that the "right hand" of Spain has not forgot "its cunning," and that in the midst of revolution she has yet been enabled to preserve in full perfection the skill which made her "Toledos" and "Bilbos" celebrated throughout the world. Mr. Inglis, in his travels, furnishes a poor description of the manufactory, but we have been given to understand that since the period of his visit very important changes have taken place, and that the whole has now been placed upon a new and extended footing.

In describing other objects of a somewhat similar nature, we shall hereafter take occasion to allude to the various processes by which the beautiful inlaying in gold and silver which decorate the *couteau de chasse*, engraved in this Plate, have been effected; for the present we shall only offer a few remarks on the various forms of those objects on which the skill of Spanish cutlers was engaged at different periods of history.

The original Spanish *gladius* used by the Romans was about twenty inches long, and was of steel, straight, double-edged, and cut-and-thrust.

In the early centuries of the middle ages, the European sword gradually lengthened until it grew into the long, straight sword of the Bayeux tapestries. Every soldier carried with him, in addition to his sword, a sort of knife (*coltellus*), used generally for his food, but sometimes as a weapon also. Daggers were occasionally

worn, but principally as an indication of nobility. As mail-armour was made stronger, swords were increased in weight and size, until they grew to such a length as to require to be slung on the back instead of being attached to the hip. The unwieldiness of this sword causing it to be rather difficult to kill a man after he had been cut down on the field of battle, the French, in the thirteenth century, introduced the *épée à l'estoc*, or stabbing-sword; this subsequently became known throughout Europe as the *misericorde*, and was regarded as a necessary accompaniment to the large sword of battle.

When plate-armour became universal in the latter part of the fourteenth century, single-handed swords were found insufficient to make much impression, and hence arose the great two-handed swords, which obtained especial favour in Germany. As the whole of the body was now encased in iron, it was only through the meeting-points of the various pieces of armour that a *coup de grace* could be given to a fallen knight; the blade of the *misericorde* was therefore made very thin, and its point sufficiently fine to penetrate the smallest interstice. It was partly with the heavy two-handed swords, partly with their lances, that the Spanish cavaliers finally achieved the expulsion of their more lightly-clad antagonists the Moors. Up to that epoch, it was principally in the fabrication of their crooked scimetars and daggers that the Moors had excelled; and in that of their lighter swords of state, the Spaniards. As very heavy body-armour was relinquished piece by piece, light swords came into fashion, and strong indeed must have been the quilted doublet that could withstand the thrust of a Bilbao or Toledo rapier. First adopted by the French as the *épée de Passot*, their use spread rapidly throughout Europe, and it was in the form of the thin, straight "small-sword," with a blade of exquisite temper and a handle of the choicest design, that the Spanish swords obtained their greatest popularity.

That a wide demand for Spanish weapons is likely to revive, there can be little doubt, so long as a Signor Zuloaga continues to lavish upon them the exquisite workmanship he exhibits. His factory is increasing rapidly, since, though only established five years, it already employs constantly no fewer than thirty first-class artisans.

J. SLIEGH DEL. ET LITH.

M. LEGBY WYATT, DEL.

EMBROIDERY IN BULLION FROM TUNIS

LONDON, PRINTED AND PUBLISHED, SEPT. 1st 1861 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE IV.

SPECIMENS OF EMBROIDERY FROM TUNIS.

These fine patterns have for the most part been selected from the fittings of saddles, the comparative beauty and costliness of which are in the East sure criterions of the social position of every rider. Designed with great taste to occupy, without crowding and without contortion, the singularly shaped spaces demanded by the peculiar form of the saddle, they offer an agreeable example of the manner in which the skilful designer may take advantage of what appears at first sight to be a difficulty, for the purpose of exhibiting the mastery with which his artistic powers enable him to overcome it. It is a remarkable peculiarity of Oriental design that, despite of the irregularity of any of the compartments into which a surface may be subdivided, it is exceedingly rare to find that every leaf and flower of the ornament intended to fill them is not complete in all its parts, and adapted to occupy its position without any apparent cramping or distortion. Considering how often we meet in works of high art with a picture-frame cutting half through the body of a man or a horse, or a figure doubled up into an unnatural attitude in one angle of a pediment in order to get it in, we cannot but feel that a useful hint is afforded by that ingenious disposition which can adapt, with such skill and invariable success, the subject of the composition to its bounding geometrical lines.

In addition to the value which the embroideries of Tunis possess as beautiful specimens of design and manual dexterity, it is to be remembered, that a peculiar historic interest attaches to every production of those, among whom still linger the traditions of that Art by which the wonders of Corduba and Granada were achieved.

In the orphreys of the Dalmatic shown in the mosaic representation of King Roger, in the Church of the Martorana at Palermo;* in the actual vestments which are believed to have wrapped the body of King Roger, and others of the early Norman kings, figured in Danieli's work;† and in the singularly interesting paintings on shields given in Mr. Owen Jones' "Alhambra," we have ample evidence of the skill evinced at early periods by the Moors in the elaboration of rich embroidery, and the extent to which it was customary to cover over every article of costume with elaborate blazoning in gold and colours. A comparison of these interesting relics with the examples which the liberality and public spirit of the reigning Bey of Tunis have consigned to this country for exhibition, clearly demonstrates how little the traditional patterns have changed in character during centuries of political vicissitude. Handed down, as we may imagine them to have been, from father to son, from master to apprentice, they would appear to have rather gained than lost in beauty of form and perfection of execution.

When the learned Girault de Prangey‡ seeks to trace to their source the origin of the graceful ornaments of the Arabs, which, as we have seen, still embellish the works of the Tunisians, it is to Persia, the magnificent, that he turns. "It is highly probable," says he, "that the Arab races brought in contact (during the earliest ages of Islamism) with Persia and the surrounding countries, borrowed from them somewhat of their luxury and of their arts. The emigration of the Arabs to the north soon bore these precious advantages to the capital of their growing empire, since under Omar may be clearly recognised the complete domination of the arts and sciences of the Persians. History shows us this Caliph, collecting

* Gally Knight, "Saracenic and Norman Remains in Sicily." † "Regali Sepolchri del Duomo di Palermo." Napoli, 1814.
‡ "Essai sur l'Architecture des Maures et Arabes, en Espagne, en Sicile, et en Barberie." Paris, 1841.

with care their customs and their processes, with a view to the establishment of the Hegira; and Makrisi* assures us that he caused to be struck *dirhems* of the 18th year of the Hegira in imitation of the coins of the Sassanides."

To return to the actual specimens under consideration, we have been informed that the whole of them are executed by men, natives of the town of Tunis, whose sole occupation consists in the execution of similar works. The value of many of the rich costumes is very great, frequently amounting, exclusive of a splendid mantle (which may alone be worth £100), to as much as £150 sterling, while a saddle, with its trappings, embroidered in a style similar to that from which the illustrations of the present plate have been taken, could not be procured in Tunis for less than £400.

* "Traité des Monnaies," &c.

JH. HUNTER DEL. ET LITH.

M. DIGBY WYATT. DIRXT.

THE CHILD CHRIST ("CHRIST ENGEL")

A BAS RELIEF IN WHITE MARBLE BY RIETSCHEL OF DRESDEN.

LONDON. PRINTED AND PUBLISHED SEP.1ST 1851 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE V.

THE CHRIST-CHILD, A BASSO-RELIEVO IN MARBLE,

BY RIETSCHEL OF DRESDEN.

Among those traditions which have grown into household words in the domestic life of Germany, there is none more graceful than that of the "Christ-Engel." The legend authorises a belief that on Christmas-Eve (*Weih-nachts-abend*) Our Saviour, taking upon himself the similitude of an infant, revisits this world to spread joy and happiness in every pious family, and more particularly to convey to those whose tender age assimilates to that under which he originally manifested his presence on earth, his benediction on those festivities to which German children especially look forward with anticipations of unfeigned delight. The Christmas-tree, which at that season bears fruit most precious to childish affections, is supposed to fructify under the genial influence of the especial blessing conferred by that visitation.

The artist from whose elegant fancy the subject of our plate has emanated, has attempted to embody the transmission to earth, by angelic agency, of that much-wished-for visitant, and the hope and joy of those who have looked forward to his descent as a season of peculiar "peace on earth, and good will towards men." The extreme elegance of the lines of this composition,—the seraphic beauty of the angel,—the pure beneficence expressed in the countenance of the Infant Christ, and the unalloyed hope and faith of the attendant children, are exquisitely expressed; and if ever a production belied Madame de Staël's flippant observation, that the Germans "could conceive art but not execute it," this refined work, evincing so high an order of thought, knowledge, and skill, may be allowed to have done so.

The artist Rietschel, born at Pulsnitz, near Dresden, early in the present century, received his artistic education at Berlin. Having while quite young evinced considerable talent in his profession, he was employed as modeller at the celebrated iron-works of Count Einsiedel at Lauchhammer, where he worked for a short time. On giving up his engagement there he revisited Berlin, and entered the studio of Rauch. In 1831 he travelled to Italy, where he remained some months, and on his return he competed successfully for the great prize of sculpture, offered by the Royal Academy of Arts at Berlin. The reputation acquired by this effort procured him an invitation to reside at Dresden, and to accept the position of Professor of Sculpture in the Royal Academy of that city. With his appointment Rietschel received a commission to execute a monument to the late King of Saxony, Ernest Augustus (the Just). The monument consisted of a sitting figure of the monarch, placed upon a square pedestal, at the four angles of which a corresponding number of allegorical figures were placed. These consisted of Wisdom, Piety, Justice and Mercy. The pedestal was designed by Schinkel, and several years subsequently (in 1845) it was erected, with some slight modifications of ornament by Gottfried Semper, in the court of the Zwinger Palace at Dresden.

The appointment of Semper, in 1834, as Director of the Architectural Academy at Dresden, and the commission he subsequently received to prepare the designs for the New Theatre in that city, produced an occasion admirably suited to develope the abilities of Rietschel. It was proposed to fill up the two tympana of the pediments of that beautiful building with sculpture, and the important task of carrying out this proposition was at once confided to our artist.

It is remarked by an intelligent critic, M. Hippolyte Fortoul,* that the union of antique form and

* "De l'Art en Allemagne." Paris, 1841.

modern sentiment,—that alliance of which Carstens had at the end of the last century only dreamt,—has been satisfactorily effected in this great work. In the subject of composition which fills the eastern pediment, says he, "the artist has accepted the definition that Aristotle has given of Tragedy; commenting on it with the spirit of this age, and inscribing it in the language of the ancients. To purge the passions by the emotions of art,—to submit the disordered forces of the soul to the harmonious laws of the beautiful,—is the idea that the sculptor has expressed, by forms invariably noble, by attitudes full of ease and freedom." At one extremity of the pediment, Sacrilege and the violent passions are represented in the story of Orestes. The priest is overthrown at the foot of the altar,—the attendants, despairing, bewail the death of Ægisthus; whilst the Furies stimulate their grief, and pursue the murderer, who casts himself exhausted at the feet of Minerva. In the middle of the pediment Melpomene presents her frowning mask to the Furies, and turns her own calm countenance towards the other side of the composition, in which Minerva conducts the suppliant to three august, aged men,—Sophocles, Æschylus, and Euripides, seated as judges, but welcoming and opening their arms to the unhappy. Behind them the sword, drawn in anger, is returned to its scabbard, and Man employs in subjugating nature the energy previously directed at once against his fellow-men and against himself.*

It is remarked by M. Fortoul, that both in the combination of its lines and the severity of its forms, this pediment recalls that of the temple of Jupiter Panhellenios at Egina, the preservation of the fragments of which at Munich has unquestionably exercised an influence over some of the productions of modern German sculpture. One point of similarity certainly exists between the two, namely, that in each all the figures are modelled in the round and detached from the ground of the tympanum; but in his attention to the delicate modelling of the human form, and to its easiest and most graceful poses, Rietschel must be admitted to have so far surpassed that monument of ancient art, that we can scarcely believe it to have ever materially affected his imagination.

In the corresponding pediment to this, in which Tragedy is represented, Rietschel has not less successfully personified the Lyric Drama—representing the influence of Music elevating the human soul. In the centre of the composition Religion soars aloft on eagles' wings,—on the right is placed the Spirit of Epic, on the left those of Lyric and Idyllic poetry. At the extremity are Genii emerging from beneath the wings of Night. In addition to these truly noble works, Rietschel executed for the same theatre four sitting statues—Goethe and Schiller, Mozart and Glück.

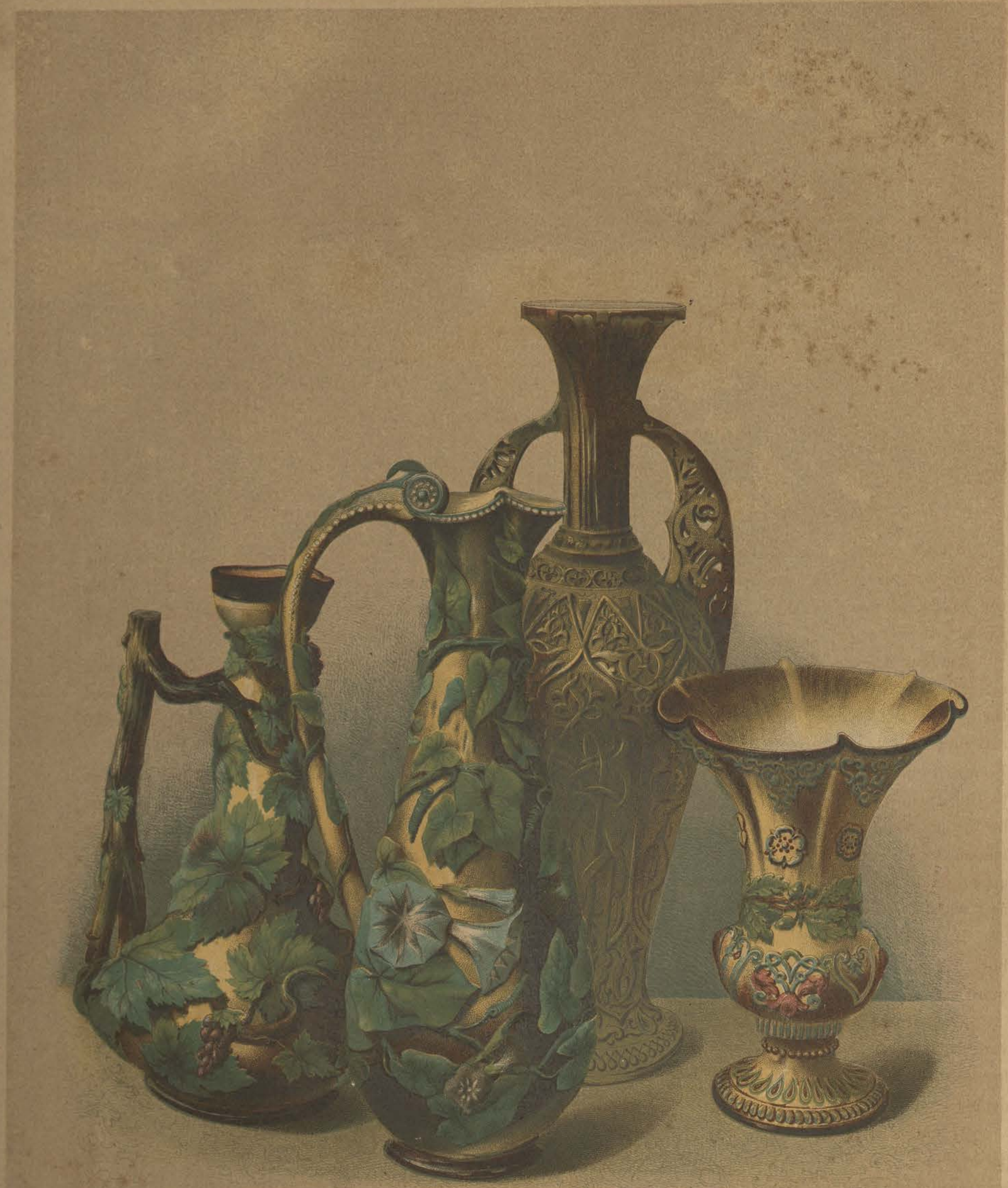
A pediment, somewhat similar in subject to the last described, was also carried out by our artist for the Opera House at Berlin. For Leipsic several of Rietschel's most celebrated works have been undertaken. His great monument to Lessing, and several others, have sustained in that city the high reputation he so early acquired in Berlin. His principal work at Leipsic is the beautiful frieze with which the "Aula," or great hall of the University, is surrounded. In that most charming series of compositions the sculptor has embodied the whole progress of the developement of the human intellect, from the Chaldean shepherds gazing in wonder and admiration at the stars, to the students of the nineteenth century assembled round the professor's chair. This truly philosophic cycle of subjects the artist has adorned with many graceful episodes—he has modelled the whole in a natural and well-sustained style, and has carried out every detail conscientiously, and with extreme delicacy of handling. This same series of compositions, cast in plaster, decorates the staircase of the Royal Palace at Dresden.

Of late years Rietschel's talent has been principally devoted to compositions for works proposed to be introduced in the new Museum at Dresden, and to the execution of a monument to Weber, the musician, which is now on the point of completion. It is proposed that it shall be placed opposite to Semper's Theatre.

We have now briefly indicated the leading public works over which the genius of Rietschel has shed its illuminating influence; there yet remain a multitude of smaller works, which, if not evidencing the same power, are endowed perhaps with even more beauty. Of these it will be our privilege to speak in a second notice of the works of this truly great artist.

It gives us sincere pleasure to acknowledge the kind assistance that has been rendered to us by Gottfried Semper, by whose aid alone we have been enabled to appreciate to its full extent the power and ability of his old friend and brother professor.

* This pediment is accurately engraved in the great work, "Histoire de l'Art moderne en Allemagne, par le Comte Athanase Raczynski." Paris, 1839. It has also, together with its companion, been excellently reproduced on a larger scale by one of the German Art-Unions.



M. DIGBY WYATT DELIN.

A GROUP OF EARTHENWARE VASES.
BY MANSARD OF VOISINLIEU FRANCE

F. BEDFORD LITH.

LONDON, PRINTED AND PUBLISHED OCTR 14TH 1851 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE VI.

VASES IN BEAUVAIS WARE,

BY MANSARD OF PARIS.

About twenty years ago M. Zeigler, a young French artist, travelled in Belgium in pursuit of picturesque subjects for his pencil. Studying the pictures of Gerard Dow, Teniers, Jan Steen, &c., he was struck with the beauty of many of the old tankards and pitchers so familiar to collectors of the works of Dutch and Flemish masters.

Finding in some few private collections at Ghent, Bruges, &c., elegant specimens of this variety of ceramic art, M. Zeigler made careful studies of the forms of many of them. On his return to France he conceived the idea of reproducing these objects, and turned his attention to the selection of a fitting locality for the experiment. Remembering the reputation which the immortal works of Bernard de Palissy, in the age of Francis I., had conferred upon the clays in the neighbourhood of Beauvais, M. Zeigler directed his inquiries to the discovery of such a quality of material as would be best adapted to the particular reproduction which he had in view. He finally decided on Voisinlieu, near the above-mentioned city, and there established a manufactory. After many attempts he finally succeeded in producing, at first an imitation, and subsequently an origination, which has stamped the articles proceeding from his establishment with the impress of taste and with a remarkable individuality of character.

In his interesting and beautifully executed work on Ceramic Art,* M. Zeigler has recorded his studies, both literary and pictorial, in connexion therewith; and has produced an extremely valuable addition to the more well-known treatise of Brongniart.

M. Zeigler's style of composition, as applied to vases and other similar objects, may be divided into two varieties. One of these appears to be based upon the study of Oriental forms and ornaments, which are brought together in geometrical perforations and conventional interlacings in low relief; and the other introducing only, by way of decoration, simple combinations of leaves, flowers, stalks, branches, &c.

Although at first disheartened by the partial failure of many of his experiments, our artist, with a perseverance worthy of, if not equal to, that of his great predecessor, Bernard de Palissy, finally succeeded in so realising his conceptions as to be enabled to introduce them satisfactorily to the world. His trade soon extended, and a very large demand for his productions was created, not only in France but in other countries of Europe.

After some years' successful practice, M. Zeigler became anxious to return to studies more directly congenial to his profession as a painter. He therefore resigned his interest in the concern into the hands of M. Mansard, who had been for some time associated with him. The commercial and manufacturing talent of the latter gentleman has materially assisted in maintaining the excellence of the Beauvais ware, and permanently establishing it in public estimation. Sales are effected, and the main portion of M. Mansard's business is transacted, at his extensive dépôt in the Rue Richelieu, Paris.

Among the improvements which have been of late years added to the original scheme of M. Zeigler,

* "Etudes Céramique, par J. Zeigler." Paris, 1850.

may be noticed, the power of picking out, in varied colours, the different subjects, such as leaves, flowers, tendrils, conventional patterns, &c., which form the decoration of these vases. The tints being applied in enamel are perfectly vitrified under the action of the fire, and thereby become as imperishable as the objects upon which they are applied.

One of the peculiarities of design in objects similar to those engraved in the accompanying plate, is a close adherence, in the primitive forms to which ornament is superadded, to those curves and contours which spring from a legitimate exercise of the potter's art, and the natural modelling given to the clay while it is upon the wheel, by his hand. There can be little doubt that the most beautiful forms in Greek and Etruscan vases have been generated from this simple process of formation, and from the refined delicacy of touch acquired by the potter during years of practice. It is not uninteresting to observe, in corroboration of this view, that the perfect outline of some of the commonest objects of pottery contributed to the Exhibition, from India, Tunis, Turkey, &c., demonstrates the method by which contours, equal in grace to those of Etruria and Magna Grecia, have been produced.

M. Zeigler is not the only artist in France on whom the celebrity of Bernard de Palissy has operated in inducing a successful revival of obsolete productions, MM. Landais and Avisseau, of Tours, have accurately reproduced, in the present day, those quaint dishes, covered with skilfully-modelled and painted representations of fruit, flowers, fish, &c., and coated with a rich vitreous glaze, which formed the especial delight of the nobles of the age of the Renaïssance. Whether such a revival quite coincides with our ideas of the utilitarian application of plates and dishes, is a question upon which, considering the apparent popularity of these works, it might be ungracious to enter further.

H. RAFTER, DEL.T M. DIGBY WYATT DIR.XT F. BEDFORD, LITH.

WHITE-WOOD CABINET,

BY MICHEL L. WETTLI OF BERNE.

LONDON. PRINTED AND PUBLISHED SEPT.R 1ST 1851, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE VII.

ESCRUTOIRE OF WHITE WOOD,

BY WETTLI OF BERNE, SWITZERLAND.

Among the various toys with which the Continent supplies England, there are few which have been generally received with more satisfaction than those elegant trifles in white wood, the profits on the production of which contribute in no small degree to the comfort of a proverbially hardy and industrious race.

While a few of these fancy goods are imported from the Tyrol, the majority are brought into this country from Switzerland. Appenzell in the canton of St. Gall, Brienz and Berne in the canton of Berne, and Groeden Grisons on the borders of the Tyrol, appear to be the principal seats of the manufacture.

Some years ago, when travelling on the Continent was less in vogue than it is in the present day, these objects, the execution of which formed principally an amusement, and scarcely an occupation, for the mountaineers during the winter months, were comparatively unknown beyond the limits of the native cantons of their producers. Travellers, admiring the dexterity with which these trifles were fashioned, commenced the purchase of them, as *souvenirs* of their excursions in the country. The shopkeepers to whom the mountaineers had at first disposed of their ingenious productions, finding that a taste for them was spreading among the visitors to their lakes and mountains, encouraged a more general production; and when, in later years, Switzerland was overrun with tourists, the dépôts increased, and the manufacture grew in extent and importance. The cheapness with which these elegant objects could be delivered to the market, subsequently induced speculators to export them, and they are now largely introduced into England, France, and Italy.

As the demand increased, the character of the objects improved. The quaint spoons, cups, salad bowls, &c. of the self-taught artist, decorated only with notchings, hatchings, and rude imitations of leaves and flowers, have gradually given way to more ambitious and more cultivated attempts. Many of the productions in the Great Exhibition which have emanated from the manufacturers of this variety of articles, display very considerable knowledge of form, and graceful feeling for ornamentation; none, perhaps, equalling in those particulars the object which we now engrave.

Much of the cleverness which especially distinguishes the Bernese carving must be ascribed to the influence which was exercised over the art by Gottfried Mind, an eccentric artist, who was born at Berne in 1768, and died in his native place in 1814. His representations in wood of every species of animal, and more particularly of cats and bears, are still eagerly sought for in Switzerland; and his little arrangements of rustic groups and figures are characterised at once by remarkable truth of expression and a charming *naïveté* of composition.

In the production of the more ordinary specimens of this department of industry the tools employed are of the simplest kind, the penknife being among the most important. In objects similar to that which forms the subject of our engraving, it must be evident that more elaborate tools have contributed to the refined execution with which the figures, animals, and other details are rendered.

A specimen of marqueterie by one of the Swiss exhibitors, M. Vogel of Thoune, in the canton of Berne,—being a round table made of twenty-eight different kinds of wood, inlaid with 38,000 pieces,—

furnishes us with full evidence of the possession by Switzerland of woods suitable for producing the variety of contrasted colours, which has been so successfully attained in the subject of our illustration.

Among the specimens of Swiss wood-carving contributed to the Exhibition which display the highest perception of character, we may particularly notice a small figure of Père Girard, a Franciscan monk, carved by M. Kessler, a sculptor of Fribourg.

The woods employed in these carvings are, for white, the spindle-tree and sycamore; for yellow, box; for brown, cherry; and for dark, walnut. These ingenious manifestations of the natural taste of the Swiss peasants have been largely introduced into England by Messrs. Evans and Son of Newgate Street, and many other importers.

In the Escrutoire we engrave, manufactured by M. Wettli, an ingenious arrangement of mechanism has been contrived, by means of which it has been adapted to accommodate itself to the convenience of writers in either a sitting or standing position. The factory of M. Wettli was established in the year 1837, and gives constant employment to twenty workmen.

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FREDK SMALLFIELD DEL.

M DIGBY WYATT, DIRECT

F BEDFORD, LITH.

PISTOLS, ENGRAVED AND INLAID WITH DAMASCENE WORK,
BY ZULOAGA, OF MADRID.

LONDON PRINTED AND PUBLISHED SEPT 1ST 1851, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE VIII.

PISTOLS, ETC.

BY ZULOAGA OF MADRID.

The reputation acquired by Spain for the manufacture of the leading implements of war is as catholic, in its sense of universality, as her faith. In our notice of Plate III. the celebrity of her Bilboa blades and Toledo rapiers was duly set forth, in the present article we propose to notice her achievements in the production of fire-arms.

From Sir Samuel Rush Merrick's work on Ancient Armour we learn, that as early as A.D. 1325 the Moors had attained a perfect command over the employment of the renowned "Greek fire;" under which term there can be little doubt that a species of gunpowder was included by the middle-age writers, as well as the ordinary balls of inextinguishable fire. At the sieges of Baza, Martos, Algesira, and Tarifa, Ismael employed it at that period; and it appears that machines similar to those he is recorded to have used were immediately known to the Spaniards, and designated by them "dolia ignivoma," or "fire-flashing vessels." These instruments of discord were used in Italy in 1351, in England in the reign of Edward III., and in France at the same time,—being spoken of in that country as "gunnæ."

The limits of the present notice will not permit us to trace the minute shades of difference between the construction and orders of precedence of bombardons, periers, cannons royal, serpentine and bastard, culverins, sacars, and minions, pedreros, pattereroes, &c., still less the peculiarities of those varieties of artillery which were manufactured exclusively in Spain.

It was towards the middle of the succeeding century that portable fire-arms appear to have been introduced throughout Europe. According to Billius, a learned Milanese, who lived at that period, hand-guns were first used at the siege of Lucca in 1430. He describes the Lucchesi as having carried in their hands a club, a cubit and a half long, to which were affixed iron barrels. These they filled with sulphur and nitre, and by the power of fire, iron balls were thus ejected. In an entry of a roll of purchases made for Holy Island the following item occurs,* "A.D. 1446, Bought ii. hand *gunnes* de ere." From whence we learn that they were occasionally made of brass. The rude hand-gun was soon refined into the harquebuse, a weapon the invention of which is generally ascribed to the Italians. The chief improvements effected were the additions, of a proper stock, bent and formed at the end so as to fit to the shoulder, and of what was called the serpentine, a species of cock with a spring, which, on being released by a trigger, descended into a pan of priming, carrying with it the end of the match, and thus leaving both hands free to steady the aim.

In 1585 these harquebuses had become so common in Spain, not only for the uses of war, but for the purposes of sporting, as to have given occasion for the publication of an order in Council restraining the clergy from making use of them.† The harquebuses were soon divided into two kinds, the long and short,—the latter being called demi-hags. The former were soon so far lengthened as to require fork-rests to steady the gun upon; the latter were made smaller and smaller until they finally gave occasion to the origin of pistols. This latter variety of arms is stated to have been invented at Pistoia in Tuscany, by Camillo Vitelli.

* Fosbroke, II. 911.

† "Archabusio etiam dum iter faciunt aut in venationibus ne utantur clerici."—DUCANGE, *Gloss.* I. 362, ed. Bened.

The musquet is of Spanish origin, and the skilful use of it rendered the infantry of Spain celebrated throughout Europe. Authorities differ as to its having been used at the battle of Bicoigne, in 1521, but all acknowledge its terrible effects when wielded by the forces of the Duke of Alva in the Netherlands, in 1569.

The spoil of rich weapons which accrued to England from the capture of so many of the Spanish vessels on the occasion of the dispersion of the Armada, procured for this country a great variety of new types in form.* Stowe records a great lottery of costly armour and weapons which took place in St. Paul's Churchyard in the year following; and the collection formed by Queen Elizabeth, which probably originated the Tower Armoury as an exhibition, is described by Hentzner of Nuremberg, who visited it in 1598, as consisting of "many and excellent arms, as well for men as for horses† in cavalry engagements." Many a Spanish weapon is still existing in this country, taken from the wrecks upon the coast: of these some interesting specimens were exhibited at the museum formed at Norfolk by the Archæological Institute in 1847.‡ From the gorgeous ornament with which everything manufactured by the Spaniards was decorated in the days of their almost boundless riches, and from their knowledge, through the Moors, of all the processes of inlaying and damascening, there can be no doubt that some of their fire-arms were of the most elaborate description.

It is justly remarked by the learned M. Labarte,§ that no "sooner had fire-arms become portable than art was applied to their decoration. The barrels of harquebuses and pistols were enriched, like the armour of the period, with delicate engraving and ornaments inlaid in gold and silver. In their adornment splendid veneers were employed: ivory and wood, stained of different colours, were made use of; frequently the stock was covered with ivory of different colours; and subjects and foliage, &c., of extreme minuteness, were engraved upon them. The sides of the lock and the cock, &c., were also richly decorated; on them ornaments, arabesques, figures, in relief and even completely detached, were frequently carved."

In the production of the specimens of Spanish fire-arms we have engraved, M. Zuloaga evinces consummate skill, and we can imagine, to a military man, no more splendid offering than was made when "the Captain-General of Puerto Ricco, the Count Mirasol, the General Don Celestino Ruiz de la Bastida, the Peninsular regiments of Catalonia, Iberia, and the Asturias, and the regular Militia of the year 1846," offered the princely gift of this rich collection of arms to the Duke of Valencia, captain-general of the Spanish army.

* For particulars of the Spanish weapons, *vide* Hewett's "Ancient Armour."

† "Arma multa et egregia quam pro viris quam pro equis in equestri pugnâ."—PAULI HENTZNERI *Itinerarium*. Norib. 1629, p. 192.

‡ "Memoirs illustrative of the History and Antiquities of Norfolk." London, 1851.

§ "Description des Objets d'Art qui composent la Collection Debruge Dumenil, par Jules Labarte." Paris, 1847, p. 367.

CLAYTON, DEL. M. DIGBY WYATT, DIR.T F.BEDFORD, LITH.

"THE MASSACRE OF THE INNOCENTS."
CARVED IN WOOD BY GEERTS OF LOUVAIN.

LONDON PRINTED AND PUBLISHED NOV.R 1ST 1851, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE IX.

THE MASSACRE OF THE INNOCENTS.

CARVED IN OAK, BY GEERTS OF ANTWERP.

Towards the latter half of the fifteenth century, the purity of Gothic sculpture had materially declined. In place of those graceful conventional lines, and that earnest, but chastened expression, which characterise the works of the decorative sculptors of the thirteenth and fourteenth centuries, a more natural and forcible, though less graceful treatment of the human figure, both singly and in groups, was introduced. It was, however, reserved for the genius of Adam Kraft, Michael Wohlgemuth, Peter Vischer and his sons, Veit-Stoss, and the great Albert Durer, to create a new and more elevated style, by gradually expanding the angularity and meagreness of German art in the early part of the fifteenth century into that dignity and beauty which distinguished the Italian carving of the same period.

Whilst we are indebted to Adam Kraft for the beautiful *Sacrament's-Hauslein* of St. Lawrence Church at Nuremberg, we owe to Michael Wohlgemuth the elaborate carving of the Madonna and female saints which decorates the high altar of the church of St. Mary at Zwickau. The celebrity of the latter artist is, however, mainly associated with the influence which his taste exerted over that of Albert Durer. Peter Vischer and his sons executed the celebrated shrine of St. Sebald in the church of that saint at Nuremberg; and whilst the elder Vischer and Kraft imparted elegance of form and composition to works in stone and marble, it remained for their friend Veit-Stoss to introduce the same qualities into wood-carving. In the numerous works by that artist in the churches already mentioned at Nuremberg, and in the cathedral of Bamberg, he has displayed an amazing command over the technicalities of sculpture in wood, and successfully represented some of the most elevated passages of Holy Writ and legendary tradition.

Founded on the improvements introduced by these artists, a large number of carvings were executed throughout Germany and the Low Countries. In the district of the Rhine, particularly, a high degree of perfection was attained, not only in ecclesiastical wood-work, but in those rich and elaborate fittings which decorate the halls of the various corporations and guilds. Among the best examples of the latter class, we may especially notice the beautiful chimneypiece in the Town-hall at Bruges.

To this purer school of *renaissance* carving and arabesque decoration a mode of treatment succeeded, analogous to that introduced into painting by Rubens, Vandyke, and those of their scholars in whose works fulness of form frequently degenerated into vulgar sensuality. Among the contemporary artists of Flanders whose works occasionally exhibit a disposition to repress this tendency to exaggeration, it is but just to particularise the celebrated François du Quesnoy, better known as Fiamingo, who was born at Brussels in 1594, and died fifty years afterwards. The purity of his taste is strikingly manifested in the well-known statue of St. Agnes, in the church of St. Mary of Loretto, at Rome. Among those, on the other hand, whose style of composition was most sensibly influenced by the extravagancies of the school of Rubens, we may mention the names of Verbruggen, Vervoort, Broecksent, De Sutter, Verschaffelt, and Laurent Delvaux. In spite, however, of fluttering draperies and eminently theatrical compositions, a high order of beauty is frequently to be found in those wonderful specimens of human labour, which, in the form of life-size figures and groups, supporting pulpits and decorating confessionals, constantly arrest the spectator's attention in the churches of St. Gudule at Brussels, St. Bavon

and St. Pierre at Ghent, St. Paul at Antwerp, and many others in Belgium. It is truly a matter of regret, that those artists, who carried the manipulation of wood-carving to a higher pitch of perfection than it has attained at any other time, or in any other country, should not have been gifted with happier conceptions, and should not have lived in a period when a purer taste was indispensable to success.

In many of the cities in which the extraordinary works referred to have become objects of traditional veneration, a desire has of late years arisen, for their repair and revival. To supply this necessity, the brothers Geerts, of Antwerp, have laboured most successfully. Accommodating themselves, in their designs and restorations, to the spirit of the spot in which their productions were to be placed, and uniting originality of conception with a graceful selection of harmonious details, they have been enabled to restore with singular success many of the ancient glories of ecclesiastical wood-work in the principal cities of Belgium.

In their most important undertaking, the execution of the new stalls of the cathedral at Antwerp, the Messrs. Geerts appear to have selected for their model the beautiful carvings of the stalls in the church of St. Gertrude at Louvain. Imitating those fine productions of the middle of the seventeenth century, more particularly in the small detached groups which surmount various portions of the design, they have succeeded in imparting to their elaborate work a freedom and beauty entirely their own. While the architectural details of the canopies are in a pure Gothic style, the multitude of subjects with which the stalls are enriched are devoid of any affectation of antiquated drawing.*

Surrounding themselves in their studio with casts from the works of the great masters we have mentioned, together with beautiful models of the architecture of the middle ages, the Messrs. Geerts have formed a large *atelier*, from which productions of extreme beauty are constantly proceeding. Among the important works upon which they are now engaged may be mentioned a series of 260 statues in stone, to be placed in the niches of the Hôtel de Ville at Louvain; and 29 panels, to be cast in bronze, for the new church of St. Joseph at Brussels. The latter are in the style of Lorenzo Ghiberti, and are expected to rival the works of that artist in the baptistery at Florence.

As illustrations, not only of the beautiful composition and artistic feeling which pervade the works of the brothers Geerts, but of the delicate handling and execution of their carvings, no specimens could have been more happily selected than those which they have contributed to the Great Exhibition. In the episode from "The Massacre of the Innocents," it would be difficult to imagine a more successful treatment of a devotional subject, since it combines much of the religious feeling of the early Italian school, with a comparatively pure, though slightly conventional style of drawing.

* The stalls referred to, both of Louvain and Antwerp, as well as many of the elaborate works of the old Flemish carvers, are delineated with great pictorial effect in Mr. Haghe's "Sketches in Belgium."

H.N. HUMPHREYS DEL.

M. DIGBY WYATT DIRXT.

F. BEDFORD LITH.

SPECIMENS OF TURKISH EMBROIDERY.

LONDON. PRINTED AND PUBLISHED NOVR 1ST 1851 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE X.

SPECIMENS OF TURKISH EMBROIDERY.

Although the Turks have hitherto manifested no distinctive peculiarity of excellence, either in the design or manufacture of common fabrics,—allowing themselves to be supplied with such articles by the more active and energetic countries of Europe,—they nevertheless display a decided predilection for the results of indigenous labour, in those articles which are adapted for the use of the more wealthy and luxurious among their population. While common cotton goods and coarse muslins are supplied from England and Switzerland, and cotton prints, shawls, and needlework of an ordinary description, from France, the natives of Turkey, in which country so much of the excellence of ancient Moorish art still remains, devote great labour and ingenuity to the production of gorgeous silk stuffs and luxurious embroideries. The same amount of perfection manifested in those exquisite dyes and processes of dressing which have made the Turkey morocco leather, and the red cottons of Adrianople, celebrated throughout Europe, is bestowed also upon the embellishment of the more elaborate articles of national costume.

The cotton of Turkey is not in any respect equal to that of India; and whether it be owing to the imperfect apparatus or labour employed in cleaning it, or to some inherent defect in its nature, certain it is that the finer fabrics, which serve, in Turkey, as a groundwork for the richest decorations of the needle, are for the most part produced by the looms of Persia and India. The muslin girdles and turbans, as well as the veils of the women, and those scarfs known as *macramas*, with which the Greek ladies are wont to cover the upper portion of the bosom when they have occasion to make visits, are almost entirely formed of fabrics the production of the last-named continent. The principal dépôt for these is at Smyrna, and at Constantinople they find a market amounting, together with that of other Indian cottons, to scarcely less than from eight to ten millions of piastres annually.

The silk goods of Turkey, which, as well as muslins, furnish the groundwork for costly embroideries, are principally produced in the neighbourhood of Brousa, in Asia Minor; a city which of late years has acquired considerable importance as the chief dépôt for the raw silk produced in the Turkish dominions. Very little embroidery is actually executed at Brousa; the silk which is forwarded from that city to Constantinople being generally consigned in the form either of twist or manufactured into plain fabrics. At Constantinople silks as well as muslins are provided by the merchants to the principal hareems throughout the city. The females, whose lives would otherwise be inconceivably monotonous, devote many hours daily to the decoration of the superb costume of the wealthier inhabitants. Thus it is we find that many of the articles in which feminine taste and skill are conspicuously displayed, bear tickets indicating that they are the productions either of the wives, daughters, or widows, of inhabitants of the metropolis. The beautiful manner in which it has been found possible, in a material so exquisitely delicate as the finest muslin, to draw home the threads which form the embroidered pattern, without distorting the regularity of the fabric, is truly remarkable. The elegance of the patterns, and the richness and harmony of the colours in which they are worked, convey a highly favourable idea of the national taste of the population. Whilst in Indian, in Greek, and in Russian embroidery, the forms partake of a highly geometrical character, it is a peculiar feature in Turkish designs that they incline rather to that style of pattern which in England is called *trailing;* that is, one in which the shoots and irregular springings of nature are imitated, with but little modification.

The goods which are thus produced by the labour of the females of Constantinople find a very considerable market at the celebrated fair of Balu-Khissar, a town situated about eighty-five miles north-east of Smyrna. This fair, which is one of the most considerable in the East, commences on the fifteenth of August, and lasts fourteen days. Long trains of camels and mules arrive from all parts of Asia, and more than 25,000 individuals are concentrated in the town and its environs. The bazaars are divided into sections, in which the nations not only of the East, but of Europe, find active commercial representatives. It is estimated that business amounting to twenty millions of piastres is annually transacted at this fair.

Some of the richest embroidered muslins in Turkey are manufactured for turbans—which are then called *abame*—and also for the handkerchiefs in which the ladies envelope their rich tresses after they have been disarranged in the bath, and previous to their receiving their usual elaborate plaiting and dressing.

The two central specimens engraved in the accompanying plate are executed on fine muslin: the top and bottom patterns exhibit the labour frequently lavished upon the enrichment of a material scarcely more delicate than the ordinary towelling of this country.

G. MATE DELT. M. DUBOIS WHALE & CO. E. MORAN LITH.

GROUP OF VASES &c.
BY "MINTON" OF STOKE UPON TRENT

LONDON PRINTED AND PUBLISHED NOVEMBER 1851 BY DAY & SON LITHOGRAPHERS TO THE QUEEN

PLATE XI.

VASE AND OTHER OBJECTS,

BY MINTON OF STOKE-UPON-TRENT.

The elegant vase which forms the centre and most conspicuous object in this plate exhibits a highly successful revival of that species of ware best known as Majolica. It may not be without interest if we offer a few remarks upon the history of that variety of porcelain manufacture, since we have every reason to believe that this first attempt of Mr. Minton's is likely to be followed by many other specimens of a similar nature.

Whether Italy first derived a knowledge of the manufacture of Majolica ware from Majorca, from the Greeks, or from the Sicilian Moors, or whether that knowledge grew out of the refinements applied by Luca della Robbia, at the beginning of the fifteenth century, to processes used at a much earlier period, it is now almost impossible to determine. The ordinary earthenware of Tuscany and Umbria was during the fourteenth century usually coated over with an opaque white clay, obtained from the province of Sienna, and generally known as *terra di San Giovanni*. The vase, thus covered, was sufficiently fired to reduce this external coating to a state of buiscuit, which was then susceptible of being floated over with a species of glaze, with which any variety of colour might be mixed. On being finally baked, the varnish and the colour became vitrified, and perfectly unchangeable. By painting on the white coating in enamel colours, and covering them with a transparent glaze, any variety of pattern could be produced; and this latter modification of the process afforded the basis upon which all the subsequent earthenware of Italy was manufactured.

The main improvement in fabrication introduced by Luca della Robbia, consisted in the substitution for the old, clumsy, clay veneer, of a thin, opaque glaze, composed of tin and sand, with a small admixture of antimony and other metallic substances.*

At the beginning of the sixteenth century we find traces of an extensive trade in vessels of the kind referred to, in many of the towns of Italy, and more particularly in the Duchy of Urbino. In Bologna, Gubbio, Perugia, Rimini, Sienna, Spello, Civita-Castellana, Ferrara, Forli, Asciano, &c., a very considerable manufacture was carried on. The last-mentioned town is regarded by Passeri† as that in which the earliest evidences of any general system of production are to be met with.

We find that in 1509 a patent was granted by Guid' Ubaldo della Rovere, duke of Urbino, to Giacomo Lanfranco, of Pesaro, for the application of gold to earthenware. It was, however, some years later that, in the small town of Gubbio, Maestro Giorgio Andreoli originated a series of processes, which added materially to the reputation for ingenuity in ceramic production of which Italy was then commencing the acquisition. The works of this artist, which are well known to connoisseurs, are usually inscribed on the back with the monogram "M°. G°." Their chief peculiarity is that of a very simple body, covered with tin enamel, and floated over with a white glaze, on which, in free colours, the artist painted a design, the draperies of which glow with a brilliant ruby colour, the secret of the preparation of that pigment being known only to himself. On the completion of the painting, the whole was frequently covered with a strong colourless glaze, almost identical in appearance with that forming the

* Vasari, "Vita dei Pittori—Vita di Luca della Robbia."

† "Istoria delle Pitture in Majolica." Pesaro, 1838.

surface of the celebrated terra-cottas of Luca and Agostino della Robbia. The art of thus decorating porcelain was subsequently practised at Gubbio by Vincenzo, the son of Maestro Giorgio, who carried to a yet higher perfection the processes known to his father.

Between 1520 and 1560 these wares attained their greatest degree of popularity. The choicest designs of Raffaelle and Julio Romano being at that time spread abroad throughout Italy, by means of the engravings of Marc Antonio and other masters, were soon transferred as subjects of decoration to the surfaces of the dishes, vases, cisterns, goblets, salt-cellars, &c., with which the tables of the Italian nobility were abundantly supplied. Over the forms and decorations of these objects the invention and refined taste of Timoteo della Vite, one of Raffaelle's favourite pupils, are recorded to have exerted a happy influence.

In the earlier examples of this art the colours are usually extremely vivid. In the later specimens the white ground forms the field upon which arabesques and figures, outlined and shaded in yellowish or brownish tints, and heightened only with faint colouring, are executed. In some late works of Majolica, or, as it is often termed, Faienza ware, relief is added to assist the developement of ornamental objects; and it was at Pesaro, between 1540 and 1560, that artists named Geronimo and Matteo produced a number of large chargers decorated in this manner. Several artists of talent and remarkable facility contributed to the enrichment of these objects. Batista Franco, Taddeo Zuccaro, Raffaelle Ciarla, Raffaelle dell Colle, Flaminio, and Orazzio Fontana of Urbino, were among the principal of this brotherhood, and assisted in the execution of the celebrated services which their patron, the reigning Duke of Urbino, presented to several of the principal sovereigns of Europe. Upon the decline of the Duchy the purity of taste in these manufactures appears to have rapidly decayed; and it is scarcely possible to find a tolerable specimen of this kind of workmanship of later date than the year 1600.

As the limits of our article will not allow us to go into greater detail on the practical manufacturing peculiarities of this interesting art, we must refer the reader for such information to the intelligent observations of M. Brongniart.*

So free and original is Mr. Minton's version of Majolica ware, that we can scarcely refuse to it the merit of great novelty. Both in modelling and execution, it is a very favourable specimen of the productions of his celebrated manufactory, which was founded about sixty years ago by the father of its present proprietor.

The attention of Mr. Minton was directed to the revival of the art of Majolica, from the circumstance of his having become the possessor of some specimens of that ware formerly in the possession of the Duke of Buckingham. He was, however, for some time, at a loss for a satisfactory model upon which to make an experiment. In 1849, two prizes were offered at the School of Design in the Potteries, by Smith Child, Esq., now M.P. for the Northern Division of Staffordshire, for the best and second-best designs for a wine-cooler in the old Majolica style. Among the competitors was Mr. Simon Birks, a young man who has recently completed his apprenticeship with Messrs. Minton and Co., and who had been a diligent pupil in the School from the time of its foundation. The model for the vase we have now illustrated was furnished by him, and for it he received one of the prizes offered by Mr. Child. The colouring of the vase has been somewhat modified by other artists, under Mr. Minton's direction.

The remaining objects introduced in the plate form portions of the exquisite dessert service which has been purchased by Her Majesty (at a cost of one thousand guineas) for presentation to the Emperor of Austria. As it is our intention to engrave hereafter some of the principal features of this splendid service, we shall at present only notice the highly successful combination of form and colour which characterises the specimens engraved.

* "Traité des Arts Céramiques."

F.H. DE LAMOTTE. DEL.

M. DIGBY WYATT. DIRX.

F. BEDFORD. LITH.

SPECIMEN OF INDIAN EMBROIDERY

LONDON. PRINTED AND PUBLISHED NOVR 1ST 1851, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XII.

SPECIMEN OF INDIAN EMBROIDERY,

FROM DACCA.

The system of division of labour, which modern political economists have demonstrated to be the only mode of successful production in the countries of Europe, has in India been known and practised from a very remote period. There can be little doubt that, while the institution of *castes* in that country originally sprang from political and social considerations, whoever framed the laws which regulate those minute distinctions in society must have had some perception of the effect which such a grouping of the various classes of the population would necessarily produce upon the arts of the country. All those admirable results which the guilds and corporations of the middle ages produced upon specific arts and manufactures, are constantly effected in the present day in the productions of India by the distinctions of caste in that interesting country. The man who from his birth is destined to be a shawl-maker, a goldsmith, or a muslin-weaver, has, from his earliest years, every faculty of his mind and every physical quality of his constitution, concentrated upon the one pursuit, excellence in which is to be at once the standard of his social position, and his security for obtaining the necessaries and comforts of life.

Thus it is that the hands of the Hindoos have acquired that marvellous sensibility of touch, which alone enables thread, of a tenuity scarcely equalled by that of Lisle, Brussels, or Mechlin, to be spun by their delicate fingers. Thus it is that the designers of shawls and embroidery have learnt, from their earliest infancy, the forms and tints of those patterns which have descended from generation to generation in the families of their caste. This peculiar social combination necessarily affords them an opportunity for refining on the works of their predecessors; and to the exercise of a consequent power of minute criticism we may readily trace that extraordinary elegance, and perfect balance of forms and hues, which to the civilised nations of Europe appear altogether incompatible with the works of a people reared in a condition which is commonly regarded as approximating to barbarism.

Many authorities might be adduced from classic authors to show the early acquaintance of the natives of India with the weaving, dyeing, and printing of cotton goods; and it is to the imitation of fabrics of a very remote date, that England is indebted for one of the most important branches of its national manufactures.

Fine woollen stuffs, somewhat resembling the best products of Norwich, are largely manufactured in the north of India, and brought by the merchants to the important trading city of Delhi, from whence they are carried down as low as Dacca, and even to Calcutta.

The enrichment by embroidery of these plain stuffs,—which are generally of a rich red, blue, green, or black colour,—is extensively carried on, both in Delhi and in Dacca; and gives employment to a great number of skilful workmen. There is a marked difference between the embroidery of these two cities, both in the quality of the silk thread and in the length of the stitches. In that of Delhi the stitches are short and cleanly worked, in a style somewhat resembling the Chinese embroidery, the silk thread being closely and neatly spun. In that of Dacca, on the contrary, the stitches are long, and the silk employed is of a more flossy character, excepting in those instances in which a special commission effects an alteration in the

general character of the work. As may naturally be inferred, the embroideries of Delhi are more highly esteemed by the natives, and are consequently more expensive, than those of Dacca. The latter city is, however, famous for its embroideries of net and muslin, which are, perhaps, better known to Europeans than any other variety of Indian workmanship in this department of industry; and in the specimen which forms the subject of our illustration, the native workman has executed, in gold thread and flattened wire, upon a piece of fine Cashmere stuff, a very elaborate pattern, the design of which must be gratifying to all who can appreciate the ingenuity of the artist in adjusting so skilfully the relative quantities of pattern and ground, and the harmonious combination of the various lines and ornaments.

The manufacture of the gold thread, in which this species of embroidery is executed, is largely carried on at Boorhampore. A description of the process employed in that district has been furnished to the "Illustrated Catalogue" of the Great Exhibition, by R. N. Hamilton, Esq., the British Resident at Indore; and the scattered notices in Mr. Montgomery Martin's "Eastern India," give us reason to believe that the same process is adopted throughout that portion of the peninsula. The operation is described as follows:—Four common bricks are laid on an earthen floor, and a layer of charcoal is placed at the bottom. Upon these a clay crucible containing a quantity of silver is deposited, and being covered over entirely with ignited charcoal, the fire is fanned by a hand-*punkah* (a piece of matting about four inches by nine), to increase the heat; additional charcoal being occasionally added in small quantities. In somewhat less than an hour the silver melts, and is run into moulds, by means of which it takes the form of small rods. A sheet of gold is then well washed, and boiled in fresh lime-juice and water. Whilst it is still warm, it is rolled completely round the rods we have described; and the process of plating the silver with gold is thus completed. The next operation is that of drawing the rods through perforated steel plates, in a manner similar to that practised in English wire-drawing; and thus gradually lengthening them until they have obtained the requisite tenuity of wire. To receive still further compression, they are passed between small rollers, and flattened on an anvil by the blows of a hammer, until at length they assume the form of exceedingly minute ribbons. A thread of silk is then suspended with a spindle at the end, a corresponding spindle is attached to one of these golden ribbons, and the spinner who sets both in motion so regulates the contact of one with the other, as to cause the gold to completely cover the whole of the silk thread. Thus prepared, it is done up in skeins, and sold to the embroiderers.

As we contemplate engraving in subsequent plates specimens somewhat analogous to that now under examination, we purpose, in our notes upon them, to analyse briefly the principles which regulate the excellence of patterns similar to that given in the present illustration.

M. DIGBY WYATT DIREXT

A GROUP IN BRONZE BY VITTOZ OF PARIS

LONDON PRINTED AND PUBLISHED NOVR 15TH 1851 BY DAY & SON LITHOGRAPHERS TO THE QUEEN

PLATE XIII.

OBJECTS IN BRONZE,

BY VITTOZ OF PARIS.

THAT the art of casting in bronze was known at an early period in France, is testified by the execution of the bronze doors which the celebrated Suger caused to be made for the Cathedral of Notre Dame; and by the magnificent tombs of Evrard de Fouilloy, who died in 1223, and of Geoffrey d'Eu, who died in 1273, both Bishops of Amiens; as also by that of John, son of St. Louis.

Although bronze was extensively used in the twelfth and thirteenth centuries, an examination of the principal relics of mediæval art leads to the conclusion that it did not acquire any great degree of popularity in France, either in the fourteenth or fifteenth centuries. The impetus given to the art of bronze-working in Italy by the labours of Ghiberti, Donatello, Verrocchio, Pollaiuolo, and others, served as the foundation for that perfection to which the processes of manipulation were carried by Benvenuto Cellini. The first works in bronze, introducing the Renaissance style into France, were executed by that great artist, at the court of Francis the First; and there is every reason to believe that his bas-relief of Diana, which was designed to decorate the celebrated Château of Fontainebleau, was the model from which Germain Pilon, Pierre l'Escot, and others, derived those inspirations which led to the creation of the afterwards famous school of French bronze-casting.

Few artists of eminence, or important works, are to be traced during the seventeenth century, but we can scarcely believe the old traditions to have altogether passed away; since the *salons* of the Quartier St. Germain are still decorated by numerous small objects in old red bronze, such as groups of boys in the style of Fiamingo, nymphs, &c., which can only be attributed to the latter part of this period.

Whilst the exquisite statuette modelling and high finish in chasing of Clodion and Girardon have caused the names of those artists to be venerated by all collectors of objects of *vertù* at the present time, they contributed no less, in the prosperous days of the old *régime*, to the perfection of those groups which were so highly prized by the *ancienne noblesse*.

The disastrous tide of misfortune which swept over those aristocratic patrons of the art could hardly fail to change the character of the art itself. It is not surprising, therefore, that under the new constitution the Florentine traditions of Girardon, and the Arcadian graces of Clodion, should have been transformed into the conventional imitations of antiquity with which the fertile brains and ready pencils of Percier and La Fontaine ministered to the *parvenu* grandeur of the Chaussée d'Antin.

The great works of ancient art of which Italy was despoiled were transported to Paris, and no doubt contributed to the fashion which set in of decorating the apartments of the citizens with objects as would-be classic as the Christian names, but at the same time as essentially French as the nature, of the *bourgeoisie*, their proprietors.

The house which earliest distinguished itself in ministering to this craving for the reproduction of antique bronzes was that of M. Thomire. Founded in 1793, this establishment continued for many years to exercise a powerful influence on the progress of the art. In the Exposition of 1806 it obtained the gold medal, and has ever since maintained its early reputation. M. Denière's establishment may be regarded as the principal rival of this great house. Their competition reached its climax in 1827. Whilst, in the Exposition of that date, M. Thomire displayed a grand service executed by him for the town of Paris, consisting of seventeen groups

of allegorical figures, admirably chased, representing the union of Peace, Commerce, and Industry, M. Denière contributed an exquisite work representing Parnassus, surmounted by the Muses, and supported by a group of Chimeras.

These great masters of the art were not, however, without competitors; for, at the period last mentioned, the founding, chasing, gilding, and silvering of bronzes, gavè occupation to 105 separate establishments in Paris, employing not less than 840 workmen. The total value of the productions emanating from these manufactories in every year amounted to 5,250,000 francs, of which more than one-third were destined for exportation.

Many of the most beautiful statues of antiquity, and of the *cinque cento* period, have been reproduced with extreme truth and delicacy, by the adoption of the important processes of reduction introduced by M. Collas; and these works have materially contributed to improve the public taste. The perfection to which this system has been brought is admirably illustrated by the beautiful series of bronzes contributed to the Great Exhibition by M. Collas, in conjunction with M. Barbedienne.

In examining any large series of French bronzes, it is especially gratifying to notice how completely the great artists of the present age have ministered to the requirements of manufacturing enterprise. M. Vittoz, who has produced the clever group which forms the subject of our illustration, displayed in the Great Exhibition works modelled by Coustou, Clodion, Oudou, Pradier, Feuchère, Pascal, Combervatt, Combett, Claymmans, and other celebrated sculptors.

Thus aided by the genius of the artist, the manufacturer in bronze is enabled to carry to perfection the inspirations of the former; but in doing so he is materially aided by the accomplished workman, whose refined skill in the manipulation of chasing places him almost upon a level with the sculptor.

The bronze trade in France is divided, theoretically, into three distinct sections:—the first consisting of founders, by whom colossal statues and objects of large dimensions are executed; the second, of those by whom *bronzes d'art* are produced; and the third, of those by whose labour articles of furniture, such as lamps, clocks, &c., are provided. In the first of these classes, the most prominent houses are that of Eck and Durand, by whom the immense bronze doors of the Madeleine were cast, and that of Soyer, Inge, and Son, who cast in a single jet the celebrated capital of the Column of July, the weight of which exceeds 10,000 killogrammes. In the second class, MM. Vittoz, Charpentier, Susse, Pailliard, and Matifat, occupy a distinguished position. Most of these houses contribute more or less to each of the three departments; and there are so many eminent manufacturers engaged in the third exclusively, that it would be invidious to mention any of them in particular.

The cup, which occupies the foreground of our illustration, has been cast after an antique model found at Pompeii. The group of boys, the chasing of which displays the highest delicacy of finish, is one of the most admirable compositions of M. Feuchère, and is worthy to serve as a model for the handling of this material.

As we must return to the subject of bronze-work in observations on subsequent illustrations, we shall reserve for the present our notices of processes, colouring, &c.

PLATE XIV.

VASE "LA GLOIRE,"

FROM THE ROYAL MANUFACTORY AT SÈVRES.

THE outline of the graceful vase which forms the subject of our present illustration, has been derived from one of those specimens of the art of Magna Grecia, the perfection of which has obtained great and universal celebrity for that department of the Museum of the Studij at Naples which is devoted to their preservation. The application, however, of colour and subject to the decoration of this beautiful example, is perfectly original, and due to the tasteful fancy of M. Hamon. The skill with which this accomplished artist has deviated from the antique, just to a sufficient extent to attain freshness and a peculiar delicacy of effect, without in any way losing the purity of the source whence his inspiration has been drawn, reflects the highest credit upon him. Each of the conventional ornaments introduced is perfectly adapted to that particular portion of the contour which it is employed to decorate; and in this respect the design merits the attention and emulation of those students who are wont to lavish the charms of ornament, without regard either to propriety of subject or fitness of application.

In subsequent plates it is our intention to engrave other specimens of the beautiful productions of the Royal Manufactory of Sèvres; and we therefore propose to divide the few remarks we shall offer upon the history of this, the most celebrated industrial institution of France, into a consecutive series of notices. On the present occasion we shall confine our observations to the circumstances under which that kind of porcelain generally known as OLD SÈVRES was produced.

In the year 1710, the attention of the chemists and manufacturers of France was excited by the prosperity and fame with which the successful experiments of Böttcher had crowned the Electoral Manufactory of Porcelain at Meissen, in Saxony. Attempts were consequently made to rival the imitations of Oriental China with which Saxony then ministered to the wants of aristocratic collectors; and as the natural materials which had been discovered by Jean Schorr, of Schneeberg, near Dresden, were wanting in France, efforts were made to attain, by a combination of various substances, those results which the union of kaolin, or china-clay, and feldspar, had already produced in Saxony. These experiments resulted in the production of a new composition, which is usually known as *pâte-tendre,* or OLD S VRES, in contradistinction to the *pâte-dure,* discovered at a later period.

The first manufactory of the former description of china was established at St. Cloud near Paris, by a M. Morin, and was conducted in 1718 under the direction of M. Chicoineau. Some of the workmen who had been brought up at this factory subsequently started on their own account at Chantilly, and in the year 1740 proposed to the Marquis d'Orry, then Minister of Finance, to reveal to him the secret of the composition of their porcelain. Neither the amount of their knowledge nor the specimens they produced were, however, sufficiently favourable to induce the Minister to become the purchaser of their secret; nor were they able to maintain for any length of time the proprietorship of their establishment at Chantilly. They were succeeded by M. Gravant, a man of superior ability to his predecessors, and it was from him that the same Minister purchased the secret in the year 1745.

A company was immediately formed at Vincennes for carrying out the processes thus acquired; and it subsequently obtained a monopoly for thirty years. Louis XV., who had displayed much interest in the success

of the scheme, became possessed, in 1753, of a share in the concern, amounting to one-third; and conferred on the establishment the title of the Royal Manufactory. We learn from M. Jules Labarte,* that in the ensuing year the manufactory had arrived at so high a degree of perfection that the workshops at Vincennes were found to be too limited in their extent for the efficient conduct of the works; and it therefore became necessary to transfer the operations to Sèvres, where a vast edifice had been constructed expressly for the purpose. In 1760 the King paid off his associates in the undertaking, and became sole proprietor of the manufactory, to which he accorded a capital of nearly 100,000 livres.

The composition of the "body" by means of which the beautiful and now most costly specimens of the old *pâte-tendre* were produced, owed much of its perfection to the skill of the chemists, Macquer and Du Lauraguis. According to the opinion of M. Brongniart, more research, and more talent, have been required to compose this artificial porcelain, by complicated and delicate means, than were necessary to obtain a successful result in the hard porcelain, or *pâte-dure*, which results from the simple mixture of two natural substances, kaolin and feldspar. M. Dupin† remarks, that the base of the former description of porcelain consists of powdered nitre, sea-salt, alum, soda, gypsum, and sand, mixed together, and reduced to a fritt in the furnace, and subsequently combined with stone and chalk. The covering, which constitutes the glaze, is composed of litharge, silex, and carbonates of potassium and soda, repeatedly combined, reduced to powder, and recombined. M. Brongniart's work‡ contains scientific formulæ for the exact proportion of these various ingredients.

In this material were executed the majority of those charming vases, cafétières, déjeûners, cups, saucers, dishes, &c., which graced the boudoirs of the petits-maîtres and dames de qualité of the court of Louis XV.; and the King himself, as well as his favourite mistresses, set such an example as greatly increased the popularity of the objects produced at the Royal Manufactory.

In reference to the colours of this beautiful species of china, it may be observed, that the Vincennes blue, so well known to collectors, is an exceedingly deep rich tint, almost approaching to a black, and that M. Gouttiere and many of the most exquisite chasers of the period excelled in mounting, in or-moulu, objects so coloured. The Rose Dubarry was a very tender pink colour, manufactured expressly for the lady whose name it bears. The celebrated turquoise blue, and the pale green, which are both much prized by connoisseurs, attained, in Old Sèvres, a degree of perfection and delicacy which, though often imitated, has even to the present day remained unsurpassed.

At first the range of ornament applied to the decoration of these objects extended little beyond interlacing lines of ribbons, and small bouquets of flowers. Subsequently, figures of Cupids, shepherds and shepherdesses, birds, sheep and other animals, were added. M. Labarte enumerates the principal artists who, either as modellers or painters, were attached to this establishment, from the time of its elevation into a Royal Manufactory. He states, that at first the artistic direction of the works was entrusted to Falconnèt and Bachelier; and subsequently to Bozot, Langrenee, and Corneille Van Spaendonck. Among the artists who distinguished themselves during the reigns of Louis XV. and XVI. may be mentioned Mérault, Bouillat, Parpette, Micaud, Pithou the younger, Niquet, and Sioux, for flower-painting; Armand and Castel for birds; Chulot and Laroche for arabesques; Rosset and Evans for landscapes; Dodin, Caton, Asselin, and Pithou the elder, for figures, portraits, and other subjects. The little statuettes modelled by Falconnèt have now become exceedingly valuable.

It is by no means difficult to ascertain the dates of the objects executed during the earlier periods of the manufactory of Sèvres. From the year 1753 to 1792, the different objects produced were almost invariably marked by a monogram or cipher, consisting of two L's, interlaced and formed in blue lines; the year in which the object was executed being indicated by a letter placed in the space formed by the intersection of the L's. Thus, the letter A, so introduced, indicates the year 1753; the letter B, the year 1754; and so on down to the year 1776, which is indicated by the letter Z. The productions of the succeeding year were marked by two A's; and the system of marking by double letters was continued in annual alphabetical order until the year 1793, which bears the mark of two R's. Many other marks were added, which serve to verify the different articles as having been decorated by particular artists; but we must again refer the reader to the works of Brongniart and Riocreux for minute details on this branch of the subject.

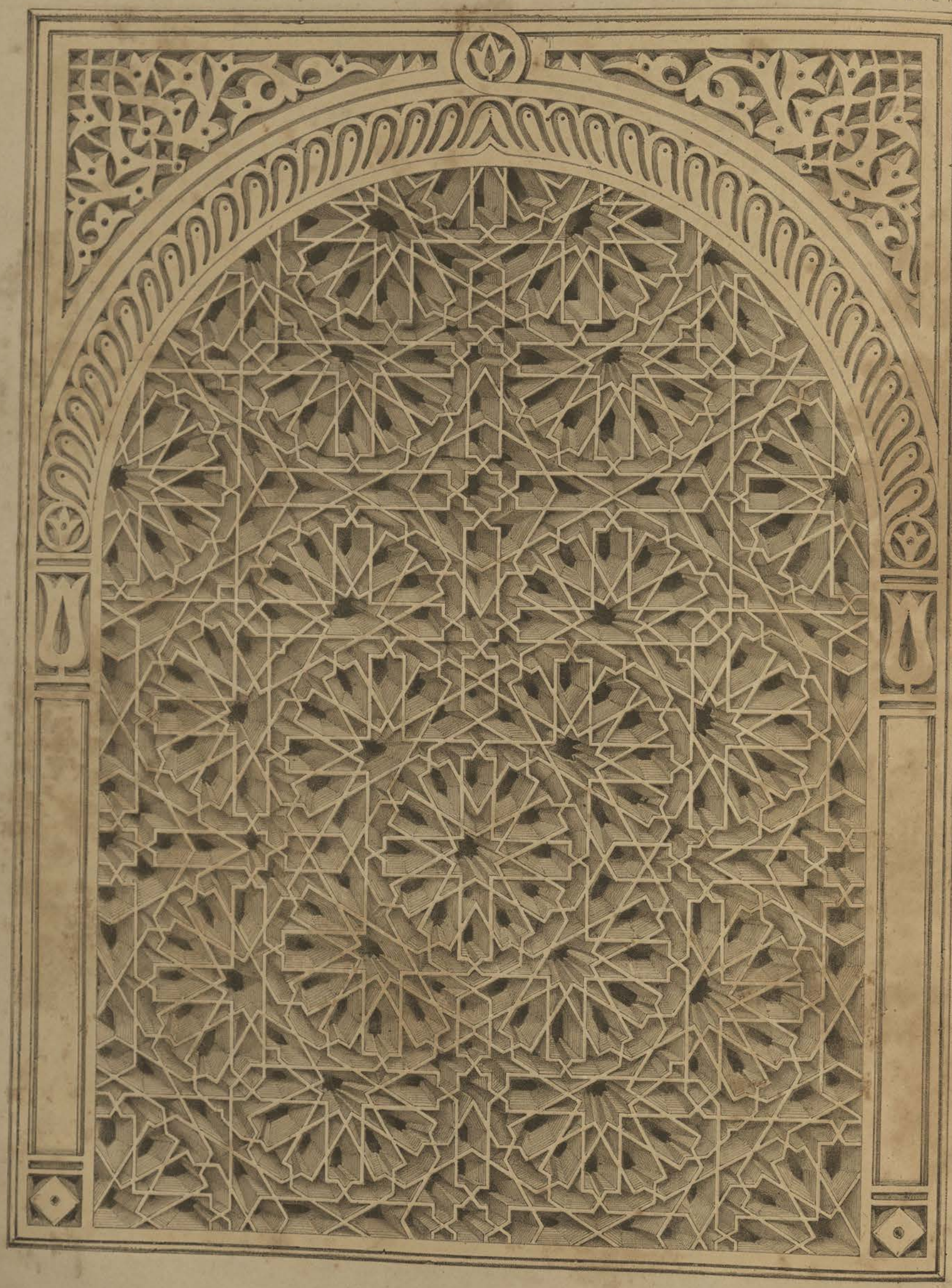
Having thus sketched, though necessarily very briefly, the circumstances under which the original *pâte-tendre* was executed in France, we shall, in our next notice of the manufactures of Sèvres, turn our attention to the *pâte-dure*.

* "Description des Objets d'Art, qui composent la Collection Debruge Dumenil, par Jules Labarte." Paris, 1847.

† Introduction to the Report of the Central Jury on the Exposition of 1834.

‡ "Traité des Arts Céramiques."

PLATE 15.



J. SLIEGH DEL.

M. DIGBY WYATT DIREXT.

WINDOW ORNAMENT FROM TUNIS.

F. BEDFORD, LITH.

LONDON, PRINTED AND PUBLISHED NOV^R 15TH 1851, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XV.

WINDOW ORNAMENT,

FROM TUNIS.

The numerous portions of vases, &c., and the fragments of sheet-glass preserved in the Museum of the Studij at Naples, bear ample testimony to the fact that the ancients were in the habit of employing that material, not only for vessels, but also for those glazing purposes to which we now so largely apply it. It is, however, obvious, from the high prices which they are recorded to have given for glass, that it was by no means commonly used by them.

This interesting question, however, affects only in a minor degree the remarks we are about to make; for it is certain that whatever facilities the Roman artificers may have possessed in the manufacture of glass, the art fell into complete disuse, if, indeed, it was not absolutely lost in Italy, so soon as those calamities which ultimately destroyed the Roman Empire fell upon the Imperial government.

Hence, in the earlier ages of the Church, perforated marble slabs were used for the purpose of admitting light, and yet partially screening from observation, and obstructing surreptitious entry; so as, in fact, to supply the places of the windows of later construction. A remarkable instance of this peculiarity was discovered in the chapel attached to the Catacombs, in the Cemetery of San Calisto, near the Church of San Sebastiano, at Rome;* and there is every reason to believe that this example was by no means singular in the same locality.

In Byzantine architecture a like practice was adopted; and in the older portions of the churches at Ravenna, as well as in that of St. Mark at Venice, and St. Ambrose at Milan, there are numerous pierced slabs of marble, which have no doubt at one period served the purpose of admitting light and air. In the highly interesting Church of Sta. Fosca, in the Island of Torcello, near Venice, the use of semi-transparent slabs of alabaster, sufficiently thin to admit of the passage of a good deal of light, exhibits one of the earliest attempts to improve upon the former practice.

Perforated windows of a description similar to those we have indicated, as still to be traced at St. Mark's and at Ravenna and Milan, are among the most characteristic features of the edifices erected under the Saracenic rule, forming at once a pleasing and useful ornament to the interiors of those structures. If, therefore, as there is every reason to believe, the elements of Moorish architecture were based upon that of Byzantium, the source of these windows, so prevalent in the former species of architecture, may easily be traced in the existing remains of the latter.

If, on the other hand, as has been contended, Moorish architecture derived its chief elements from the traditions of India, transmitted by way of Persia, the probability of that opinion may be supported by the fact that, in both the latter countries, windows of this nature are to be found, even to the present day, in common use. Among the objects contributed to the Indian department of the Great Exhibition were two charming specimens of perforated stone-work, destined to be used as windows or screens; and from the sketches of various travellers in Persia, it is clear that objects of a similar nature are common throughout that country.†

In adopting the use of these primitive windows, the Moors were no doubt compelled, by a deficient supply

* Boldetti, "Osservazioni sopra i Cimeterij," vol. i. chap. 9, plate 2. D'Agincourt, "Histoire d'Art par ses Monumens," plate 13.

† See "Voyage en Perse, par Eugène Flandrin et Pascal Coste."

of the materials in which their original models had been executed, to produce imitations of them in plaster. Among the earlier and more perfect specimens of this kind, we may cite the numerous examples which are to be met with in the mosques and tombs of the Caliphs at Cairo.*

The Moors continued the use of perforated plaster windows after the employment of glass was adopted, frequently covering the perforations with the latter material. The openings were generally arranged in a regular geometrical pattern, somewhat in the style shown in our present illustration, and various coloured glasses were attached on the external side, so as to form a regular mosaic pattern. A very graceful example of this effective mode of decoration may be observed at the Alhambra, in the windows looking from the Hall of the Boat into the Court of the Fishpond. Although the glass has been broken away from these windows, the original pattern may be ascertained with comparative certainty, by some recesses on the opposite side of the court, which were painted to correspond with them.†

Many refinements were introduced to enhance the effect produced by windows of this description. The perforations were, and even now are, invariably in an oblique direction, descending from the external face of the plaster, so as to transmit directly the full brilliancy of the light. The glass was fixed to the outside by means of plaster, worked to a face flush with the outer surface of the glass. The perforations generally spread inwardly in all directions from the external aperture, which is invariably kept of small dimensions, and by this arrangement the coloured light illumines with its tints the adjacent surfaces. This plan is adopted with a most happy effect in the specimen from which our plate has been taken; and we are assured that similar windows are common throughout the East.‡

A system of decoration somewhat analogous to this was frequently applied to obtain light through domes and other large vaulted surfaces, as may be found in some of the earliest specimens of Moorish art.§ In these examples the vault is usually perforated with a number of small openings, regularly distributed over the exterior, so as to admit of their being connected with lines, or fillets, which convert them into centres, around which are disposed various geometrical enrichments, frequently covering the whole exterior of the dome. Though small on the exterior, these holes enlarge as they pass through the thickness of the roof, frequently expanding on the interior surface, into the form of stars, hexagons, octagons, and foliated forms. The small pieces of coloured glass which cover the outer apertures admit sufficient light to brightly illuminate these foliated openings, and the internal effect of the cupola is thus most gracefully heightened. The same arrangement of geometrical lines and patterns that we have described on the exterior of the dome is employed also to connect the internal perforations. It is found in practice, that by bedding the pieces of glass (which may be of any irregular shape) in the plaster, the roof is kept perfectly water-tight.

A highly successful attempt to introduce the above system of decoration into this country was made about ten years ago by Mr. Owen Jones, to whose kindness we are indebted for several of the preceding remarks. In a mansion constructed from the designs of that gentleman in the Queen's Road, Kensington Gardens, he caused a vaulted skylight to be executed, which displays internally a most elaborate pattern, being covered on the outside with pieces of coloured glass of irregular shapes bedded in plaster in the manner already described. The application of two or three coats of paint to the exterior of this skylight has been sufficient to preserve it in a perfectly sound and water-tight condition up to the present time.

In our notice of Plate IV. we alluded to the singular preservation of the patterns of the most successful periods of Moorish art among the present inhabitants of the northern coast of Africa. It is, therefore, only necessary here to point out the exact similarity of style which is to be observed between the window from Tunis now selected for illustration (which is of a kind in daily use in the streets of that city), and numerous examples in the Alhambra and other monuments of Saracenic antiquity.

* See Coste, "Monumens Arabe du Kaire," and Hay's "Cairo."

† See "The Alhambra," by Owen Jones, vol. ii. plate 45; and "Drawings and Sketches of the Alhambra," by J. F. Lewis.

‡ See "The Oriental Album," by E. Prisse.

§ See "Essai sur l'Architecture des Arabes et des Mores en Espagne, en Sicile, et en Barbarie, par Girault de Prangey." Paris, 1841.

J. SLIEGH. DEL.

M. DIGBY WYATT, D. EXT.

F. BEDFORD. LITH.

INDIAN ELEPHANT TRAPPING.

LONDON, PRINTED AND PUBLISHED NOV.R 15TH 1851, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XVI.

INDIAN ELEPHANT TRAPPING.

The gorgeous specimen of embroidery which forms the subject of this plate, conveys some faint idea of the florid style of ornament which decorates the beautiful offerings made by His Highness the Nawab Nazim of Moorshedabad to Her Majesty the Queen of England. It forms part of a splendid velvet covering, worked with gold and silver, descending from the lower part of the howdah, or small pavilion, which, borne upon the back of an elephant, serves to shelter its rider from the intense rays of a tropical sun.

A magnificent howdah of this description, carved in ivory, and completely fitted up for use, with all its accessories, together with a complete suit of elephant trapping, forms the principal portion of the present to which we have alluded. To this truly regal gift the Nawab has added a superb throne, or native reception seat, with its canopy, and a frame-work of silver, serving to support the pillows. Two mookals (emblems of rank), and two palanquins, one richly fitted up for state occasions, and the other without a canopy, complete the present. The style and character of these elaborate objects admirably illustrate the Oriental splendour with which the native princes make their visits of pomp, and their progresses of parade.

The state trappings of an elephant consist of a large cloth, which completely covers the body of the animal, and falls down to within a short distance of his feet. In the present instance this covering is of velvet, embroidered all over, in a style similar to that exhibited in the accompanying plate. Upon this cloth the howdah, or pavilion, is placed, the frame-work of which serves to support a canopy, beneath which the prince or noble takes his seat. Behind rises a distinct and less lofty canopy, which is occupied by an attendant, whose duty it is, with a plume of feathers, to whisk away the insects which buzz around, and, but for his interference, would much annoy his lord. The dexterity with which this duty is performed, is a theme of admiration to all who have witnessed it. In front of the howdah, astride upon the neck of the elephant, and furnished with a goad, by means of which he directs the movements of the animal, sits the driver. Over his head is stretched an awning, supported by two rods projecting from the lower part of the howdah. In front of the driver, and covering the head of the elephant, is spread another piece of cloth, embroidered even more richly than the rest of the trappings. On each side of the animal's ears, and almost concealing them, hang long cords of gold and silver twist. From each side of the howdah depends a gorgeous piece of embroidery, partially covering the great cloth already mentioned; and from one angle of this smaller or uppermost cloth our illustration is taken, serving but imperfectly to represent the extreme brilliancy of the original, the gold of which is highly burnished and of the greatest purity. The beauty of the patterns worked in bullion which enrich the velvet, and the woven silk, or kincob, which forms the covering of the howdah, is most remarkable; and, when lit up by the intense rays of an Eastern sun, we can imagine the whole panoply to present a gorgeous appearance, investing the movements of the unwieldy animal with as near an approximation to grace and dignity as its clumsy action will permit.

From the earliest periods, the elephants of India have been peculiarly identified with regal magnificence. When Alexander the Great first came in contact with them, and perceived their splendour in state and their utility in war, he determined upon introducing them into Greece. The experiment, however, proved unsuccessful, since the expense and difficulty of maintaining them offered an insuperable obstacle to his project. Introduced at a subsequent period into Italy, by the armies of Pyrrhus, however imposing their appearance, they proved an unequal match for the ingenuity of Hannibal and the valour of the Roman soldiers. Degraded from

their dignified and warlike position, they sunk into the occasional ornaments of Imperial triumphs, and ultimately, in the reign of Nero, mounted the stage in the public games, under the yet more equivocal guise of rope-dancers. In the middle ages, a celebrated elephant was presented by the Soldan of Babylon to the Emperor Frederick the Second; and King Henry the Third had also an elephant, which was publicly exhibited in England.*

The commercial intercourse which existed between India and Italy was not confined to the importation of elephants into the latter country; since Pliny tells us that, in his time, the Roman citizens devoted no less than fifty millions of sesterces annually (more than 400,000*l.*) in procuring for themselves the luxuries of the East. Among these we have reason to believe that silks and silk stuffs formed no inconsiderable item. It is not indeed impossible, that the splendid embroideries of India, thus made familiar in the West, contributed to that taste for elaborately decorated garments, which was transmitted to the rest of Europe from Byzantium; and may, even at the present moment, be exerting an influence over the productions of Muhlhausen and Manchester.

A peculiar interest attaches to any objects produced at Moorshedabad, on three accounts. In the first place, since that city, and its adjacent Port of Cossimbazar, are celebrated as the most important *foci* of the silk-trade in India; serving not only as the greatest depôt for raw silk, but as the principal manufacturing centre, from whence many of the most distant countries of the Peninsula are supplied with twist and made-up goods. The Cossimbazar Corahs are, indeed, largely imported into this country: most of what are known as "real India silk" pocket-handkerchiefs emanating from that district. In the second, because from 1704 to 1756, Moorshedabad was the capital of Bengal; and may, therefore, be regarded as serving to illustrate the most important native industry of that celebrated province; and, in the third place, because when Moorshed, in 1704, removed the seat of government from Dacca to his new metropolis, to which he gave his own name, he brought with him the most skilled artificers of Dacca, on the traditions of excellence descending from which all the art of that portion of the country appears to have been based.

* Fosbroke, 1014.

PLATE XVII.

THE HUNTER,

BY GIBSON OF ROME.

THE beautiful statue represented in the Plate affords a remarkable instance of the account to which the highly educated artist is frequently enabled to turn the casual combinations of form and movement which Nature provides abundantly, for the benefit of those who have the ability to appreciate and adopt the inspirations she offers. The simple incident of a boy struggling to restrain an impetuous hound caught the eye of the accomplished sculptor of this admirable work, as he was walking in the streets of Rome. His attention was at once arrested by the vigour of the contrasted action, and the idea of embodying it in marble immediately suggested itself to his mind. On arriving at his studio, Mr. Gibson made a sketch from his recollection of the incident, and shortly after commenced modelling it. The result is shown in the statue which forms the subject of our illustration, and which was unquestionably one of the most beautiful works of art contributed to the Great Exhibition; displaying as it does, in the most striking manner, the idealism with which the poetic imagination of the artist has invested the subject which formed the basis of his labours. The "Hunter" was originally executed for Mr. Sandbach of Liverpool, and the Earl of Yarborough is to be congratulated on the possession of the exquisite "replica" from which our drawing has been made.

Manifesting in this production a profound acquaintance with the works of Scopas, Praxiteles, and the other great masters of classic art, availing himself to the utmost of all the resources of execution displayed in their most successful efforts, and yet maintaining an originality essentially his own, Mr. Gibson has in this statue preserved all the best qualities of antique art, without allowing any peculiarities of mannerism to detract from its great merit. The graceful arrangement of the varied lines of the composition, the vigour of the action, the perfect balance of the figure, the manly beauty and activity of the Athlete, the eagerness of the hound, the anatomical detail expressed, but not overwrought, and the admirable finish of the carving, all contribute to the perfection of a whole, eminently calculated to maintain that national reputation for excellence in works of the highest order of sculpture which the genius of Flaxman first acquired for this country throughout Europe.

A remarkable coincidence between these two great masters in art—Flaxman and Gibson—is to be found in the habit, common to both of them, of idealising from accidental combinations of *pose* and form. An inspection of any of those charming note-books in which the former was wont to store the materials from which his compositions were subsequently elaborated, will demonstrate the felicity with which his genius seized and elevated the simplest actions of childhood and of youth. Girls skipping, boys playing, mothers fondling their children, and the most ordinary domestic incidents, were seized by his tender fancy and transferred to paper by his graceful pencil. Many of Gibson's most celebrated compositions, such for instance as the "Wounded Amazon falling from her Horse," "Jocasta parting her angry Sons," and a "Nymph dancing a Cupid on her foot," were in like manner adopted from the artist's casual observation of the scenes which were passing around him.

The few incidents which have disturbed the even tenor of Gibson's artistic life have been so gracefully sketched by one of the most accomplished female writers of the present day, that for information upon those

points, we may content ourselves with referring our readers to that delightful memoir.* On this occasion we prefer to notice a few of the leading circumstances of his artistic, rather than of his personal, career.

The relation of Gibson in point of time to the principal sculptors of the English school may be best appreciated by remembering that at the time of his birth, in the year 1791, Roubiliac had been dead nearly thirty years; Nollekens, at the age of fifty-four, was in the height of his reputation; Banks was somewhat older, exhibiting in that year his celebrated monument to the only daughter of Sir Brooke Boothby; Bacon about the same age, and equally popular; Flaxman in his thirty-sixth year; and Chantrey, a boy of ten years old in Derbyshire.

The greatest influence over the youthful energies of Gibson was undoubtedly exercised by Flaxman, to whose honour it must be recorded, that he was among the earliest of the artist race to appreciate the talents of the rising sculptor. There can, indeed, be no doubt that his advice materially strengthened Gibson in his determination to resist every inducement to remain in England, and encouraged him to study at the fountain-head the finest monuments of ancient art.

Gibson arrived at Rome in 1817, having produced several works of great promise before leaving England. Among these may be especially mentioned a cartoon of "The Falling Angels," which he executed when he was but about eighteen, and which is now preserved in the Liverpool Institution. About the same time he also produced a somewhat similar cartoon, the subject being taken from Dante. Even at that early age he had acquired considerable facility in modelling, which is testified by his exquisite reliefs of "Cupid Bound," and a "Recumbent Psyche," both designed for the centres of chimney-pieces. His early acquaintance with Roscoe doubtless contributed to foster that profound devotion to Greek art, which may be traced in all his works.

Already a skilful draughtsman and modeller, with a mind expanded by converse with friends so illustrious as those we have mentioned, and with his whole soul intent upon the study of his art, Gibson presented himself, in his twenty-sixth year, to the celebrated reviver of Italian sculpture, Canova. The liberal offers of assistance made on that occasion by this great artist and noble-minded man, and the independence manifested by the young Englishman, are alike honourable incidents in artistic biography. With such intensity did Gibson avail himself of the kind advice and instruction of Canova, that, for the first three years of his residence at Rome, he never missed attendance in the studio of his director for a single night. "Then," said he, in a letter quoted by Mrs. Jamieson,—"then, for the first time in my life, I received such instruction as I really needed, and learnt the practice and the laws which govern sculpture. The compositions I had executed at Liverpool were the productions of a vivid imagination which knew no bounds. All the designs I made at this time were to be within those rules which marble demanded. It was then I found how limited sculpture is."

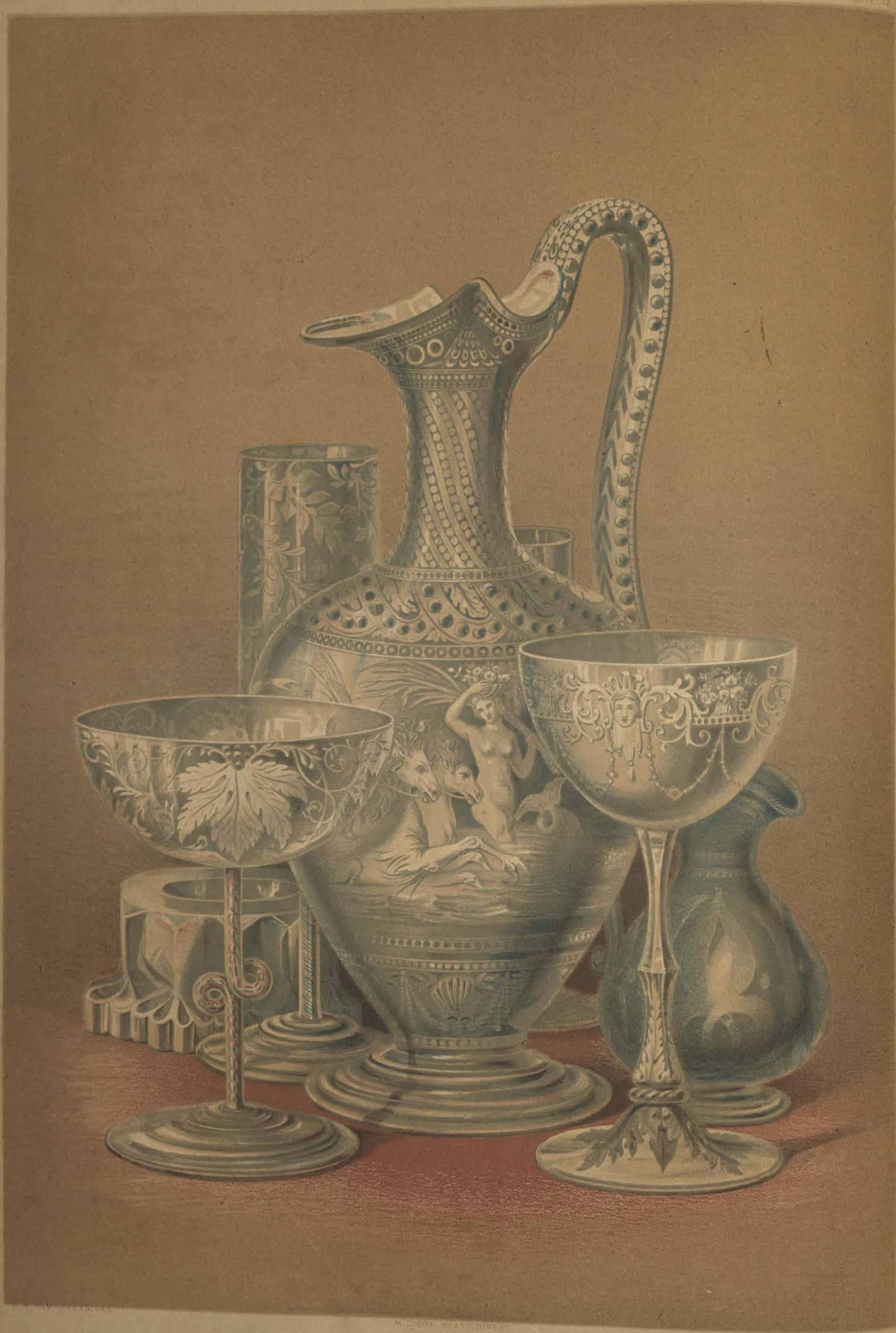
From the period of his leaving the studio of Canova, in the year 1821, up to the present time, Gibson has occupied the same atelier in the Via della Fontanella at Rome. On the death of his "noble master," he placed himself under Thorwaldsen, and benefited by his instruction.

Among the earliest works executed by Gibson may be enumerated, "Psyche borne by the Zephyrs," first executed in marble for Sir George Beaumont; and a group of "Mars and Cupid," purchased by the Duke of Devonshire, his first distinguished patron, and now at Chatsworth. Mrs. Jamieson tells us that "among the drawings he first showed to Canova, there was a sketch of the meeting of Hero and Leander. Struck by the grace and passionate feeling of the sketch, Canova desired him to model it in bas-relief. The Duke of Devonshire ordered this also in marble, and it still adorns Chatsworth."

In all these early works, the training of the school of Canova is to be distinctly traced; and it is delightful, after the lapse of years which has separated the pupil from his master, to hear the affectionate respect with which the former still repeats the counsels of the latter. The advice that Canova constantly impressed upon all in whose progress he felt interested, was to study Nature, learning to study her aright by a constant reference to the antique. It has been our privilege to hear Gibson acknowledge that this advice has been his constant rule of practice; and the beauty of the numerous productions which have issued from his studio during the last thirty years, bears unequivocal testimony to its justice and value.

On the artistic peculiarities of Gibson's works, we hope to offer some remarks to accompany an engraving of one of those charming specimens which evince his profound acquaintance with the proper conditions of bas-relief.

* "Art Journal," vol. xi. p. 139.



M. DIGBY WYATT, DIREXT.

F. BEDFORD, LITH.

A GROUP OF OBJECTS IN GLASS — CUT AND ENGRAVED.

CONSISTING OF AN ENGRAVED CLARET, AND CUT CREAM JUG BY GREEN OF LONDON — A VENETIAN CHAMPAGNE AND AN ENGRAVED ALE GLASS BY BACCHUS OF BIRMINGHAM — AND AN ENGRAVED CLARET GLASS AND CUT SALT CELLAR BY APSLEY PELLATT OF LONDON.

LONDON PRINTED AND PUBLISHED DEC. 1st 1851 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XVIII.

A GROUP OF OBJECTS IN GLASS,

CUT AND ENGRAVED BY GREEN OF LONDON, BACCHUS OF BIRMINGHAM, AND APSLEY PELLATT OF LONDON.

THERE are probably few of the staple manufactures of the country with the processes of which the public are more generally acquainted, than with those of the glass trade. The ductility and plasticity of the material in its heated state — the skill with which the workman is enabled to mould it to the requisite form — the picturesque effect of the glowing furnaces, and of the numerous workmen busily plying their avocations, and hurrying to and fro with masses of the glowing *metal*—all contribute to charm and interest the spectator of the varied operations carried on in the glass-house. It would, therefore, be probably repeating a thrice-told tale if we were to dwell, in this notice, either on the constituent elements of which glass is composed, or on the ordinary processes of its manufacture. Those, however, which were peculiar to the celebrated works of Murano, near Venice, are of so interesting a character, that we hope to be enabled to devote to them a separate notice. For the present our remarks will be confined principally to the great improvement in taste which has taken place during the last few years, in the manufacture of the ordinary objects of domestic use.

Among those whose labours have brought about this satisfactory result, there are few who have been more successful than the three firms by whom the elegant objects engraved in the accompanying Plate have been produced; and if we add to theirs the names of Messrs. F. and C. Osler, Rice Harris and Co., and Lloyd and Summerfield of Birmingham, and Messrs. Richardson of Stourbridge, our list will represent the leading houses in this department of production.

The establishment of Mr. Green, which was formerly conducted by the late Mr. Brumby, has long been noted for the excellence of the taste which has presided over it. Through its influence many of the most attractive novelties and graceful forms which have of late years acquired popularity in London, have been introduced to public notice. The beauty of form, and the exquisite refinement of engraving, which characterised not only the objects we have selected for representation, but the whole of the articles contributed by Mr. Green to the Great Exhibition, reflect the highest credit upon Mr. Daniel Pearce, the principal manager of that gentleman's works; from whose designs the decoration has, for the most part, been executed. In the completion of the articles so designed, some of the most skilful glass-cutters and engravers of the metropolis, and particularly Messrs. Coles, Keene, and Pye, have been engaged. It is the more satisfactory to be enabled to record the names of these skilful artisans, since, until very recently, a belief has existed that our manufacturers have been compelled to have recourse to foreign assistance for the highest class of engraving on glass.

The firm of Messrs. Bacchus and Sons is one of the largest contributors to the supply of table-glass throughout the country; and well sustained, in the Great Exhibition, that reputation for beauty and originality of form which their previous display in the Birmingham Exposition of 1849 had obtained for them. In the form of their wine-glasses and decanters especially, Messrs. Bacchus have succeeded in rivalling, if not excelling, the most charming productions of the Great Parisian establishment at Choisy-le-Roi. They were also among the first to revive in England many of those processes for the production of twisted and filagree glass, which had fallen into neglect since the days when the workmen of Murano ministered to the luxury of the Venetian nobles.

To Mr. Apsley Pellatt the art of glass-working is indebted, not only for many of the most remarkable improvements which have been of late years introduced into its various operations, but for the most interesting record which has yet been published of the peculiarities of the manufacture.*

From the historical notices which, in Mr. Pellatt's work, precede that minute description of processes, to which we must refer such of our readers as desire to be initiated into the manufacture of this material, we gather a few interesting particulars.

Stow informs us,† that the Fryars' Hall (Crutched Friars) was converted into a glass-house for making drinking-vessels, which, with 40,000 billets of wood, were destroyed by fire in 1575. The manufacture had been set up in 1557, and was the first of the kind known in England. Pennant, in quoting this fact, adds, that the finest flint-glass was first made at the Savoy; and the first plates for looking-glass and coach-windows in 1673, at Lambeth, under the patronage of George Villiers, duke of Buckingham.‡ Mr. Pellatt remarks, however, upon these authorities, that the English manufacturers were for a considerable time much inferior to the Venetian, "for, in 1635, Sir Robert Mansell obtained a monopoly for importing the fine Venetian drinking-vessels. The art of making these was not brought to perfection in this country till the reign of William the Third."

At a period contemporary with the first establishment of the glass trade in London, there is reason to believe that it was also introduced at Stourbridge in Worcestershire; in which situation it has continued to flourish to the present day. Local tradition ascribes its introduction there to a family from Holland, whose name is believed to have been Hensell. From that period, its progress, though slow, has been remarkably steady, and the great glass-works of Birmingham may be considered as off-shoots from the primitive establishment at Stourbridge.

From occasional representations to be met with in the works of Hogarth and other artists of that period, and from the curious old specimens occasionally found in the corner-cupboards of old farm-houses and cottages throughout the country, it is evident that the forms which were then most popular presented a remarkable affinity to the lighter specimens of Dutch and Flemish glass. Subsequently the public taste took a more substantial direction, and manufacturers appeared to rival one another in using glass in the densest masses and heaviest forms. Elaborate cuttings, in unartistic patterns, scored over the surfaces of every object; and it became almost as difficult to drink out of one of these clumsy wine-glasses as it was dangerous for any one possessed of other than the strongest arm to pour out wine from the ordinary form of decanter.

Within the last ten or fifteen years, a considerable reformation has taken place, and glass is now generally employed in that thin, light, and refined proportion so admirably suited to its delicate and fragile nature.

It is satisfactory to be able to recognise the just appreciation which is now beginning to be entertained of the beauty and consistency of those forms which result from the ordinary operations of the glass-blower's art. What can be more graceful than the primitive form of the common wine or oil-flask? Those simple parts which are essential to the construction of a comfortable drinking-glass are now constantly retained in all their simplicity and integrity. The bowl, the stalk, the knop, and the foot, are no longer blended in disagreeable curves, but are allowed each to assert their own proper office; and the skill of the artist and engraver is called in rather to decorate than to disguise them. Several of the specimens we have selected exhibit most favourably this peculiarity, and bear testimony to the extreme beauty of the art of engraving on glass.

In concluding our notice, we cannot do better than by extracting a few remarks from Mr. Pellatt's work, illustrating the peculiarities of this branch of art-manufacture. "Copper wheels and finely-pulverised emery, mixed with oil, are used to execute the outline and ground of the modern engraver's work; and for the polished work, lead wheels and very finely-pulverised emery are employed. Coarse patterns for hall-lamps are engraved by the glass-cutter's smoothing-wheel. The contrast of the polish of a wood-wheel upon a ground roughed by sand is often effective, though the range of pattern is somewhat curtailed by the large size of the cutter's wheels rendering it difficult to execute curvilinear designs. The Venetians practised a curious art of engraving with the point of a diamond, or broken steel-file. This simple process was no doubt employed anterior to engraving by the lathe. To this it probably gave way, as the accurate artistic effects of the lathe far surpass the crude work of steel or diamond-etching: Etching by fluoric acid has been introduced, but its bite is not sufficiently rough, and is not found effective for general purposes. Pleasing effects are produced by engraving through an outer casing of coloured glass into an interior white, transparent, or enamelled glass, usually afterwards decorated with gold, and painted in arabesques or other patterns. This work is chiefly the produce of Bohemia, Bavaria, and France." We may add, that it has recently been executed at Mr. Pellatt's and other English glass-works with complete success.

* "Curiosities of Glass-making. By Apsley Pellatt." London, 1849. † "Survey," 293. ‡ Pennant's "London." 5th ed. p. 377.

RATIER. DEL.

M. DIGBY WYATT, DIREXT.

F. BEDFORD. LITH.

FOUNTAIN AND ORNAMENTAL GATES,

(IN CAST IRON.)

BY THE COALBROOKDALE COMPANY.

LONDON. PRINTED AND PUBLISHED DEC. 1ST 1851. BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XIX.

FOUNTAIN AND ORNAMENTAL GATES IN CAST IRON,

BY THE COALBROOKDALE COMPANY.

Those evidences of the skill of the iron-founder which abounded throughout the mechanical department of the Great Exhibition, displayed the high degree of perfection which English manufacturers have attained in the present day, in the production of exceedingly large castings, of perfect precision of form, and homogeneity of texture. The objects, adapted for every domestic purpose, and for the reproduction of works of art, afforded equally convincing proofs of the excellence to which the more artistic applications of the material have been brought, and its capabilities as a medium for rendering, in cheap and permanent form, the happiest inspirations of the artist.

The application of iron to such uses is comparatively modern; and great credit must be given to the Coalbrookdale Company for the spirit with which they have brought to bear the unrivalled resources of their establishment in the elaboration of works of sculpture of considerable pretension. So vast are the operations of that celebrated company, and so important the products it delivers to the market, that we feel it our duty to offer to our readers a short notice of its origin and progress.

Coalbrook Dale is situated at a short distance from Madeley, in Shropshire, in a district, the geological peculiarities of which render it eminently eligible for the establishment of an iron-foundry,—both minerals and water abounding in its vicinity. These natural capabilities were taken advantage of at an early period; and we find that in the time of Charles I. iron-works had been already established there for some time, and were in the possession of a Royalist family of the name of Wolfe. The property subsequently changed hands, and in the reigns of Anne and George I. and II. we find it had been transferred to a Mr. Fox, who converted the establishment into a large manufactory for grenades and cannon-balls.

In 1707, Mr. Darby, a manufacturer of Bristol, took a lease of the works, which at that time had dwindled to a single furnace and foundry. He considerably enlarged the works, and carried on the manufacture of kitchen utensils, and other articles, which were cast by a process peculiar to himself.

It was, however, through the genius of his son, a man of remarkable scientific attainments, that the reputation of the foundry was placed on a permanent footing. By his energy and perseverance, many difficulties were overcome, and he may be admitted to have worthily attained celebrity, since it was through his influence that the first iron tramway for coal waggons was laid down in England, and the first iron bridge constructed. Assisted by a Mr. Wilkinson, he erected, in the year 1779, that celebrated bridge over the Severn, near Madeley, which has conferred its name upon the adjacent market town of Ironbridge.

From that period to the present, the works at Coalbrookdale have increased rapidly in extent and importance, and at the present time, under the able management of Mr. Crookes, they furnish employment to about four thousand individuals. This vast number of workmen comprises every gradation of intelligence, from the master who controls, to the boy who assists in hewing the coal to feed the furnace. Clerks, artists, modellers, carvers, pattern-makers, moulders, furnace-men, casters, finishers, smiths, fitters, japanners, painters, gilders, bronzists, and decorators, all contribute to the elaboration of that extraordinary series of objects which are constantly issuing from this establishment.

Every possible variety of those smaller articles which enter into the daily consumption of the great mass

of the middle classes, are made at Coalbrookdale. Stoves, fenders, chairs, vases, inkstands, card-baskets, scrapers, &c., form the staple manufacture; but, in addition, numerous large works, of a more ambitious class, such as the Fountain and Ornamental Gates now engraved, and the extraordinary Dome, which occupied so prominent a position in the Great Exhibition, are frequently produced.

The point of view in which we especially must take occasion to commend the Coalbrookdale Company, is in reference to the energy and liberality with which they seek to employ and reward the highest class of artists. The beauty of such productions as the Fountain we engrave, the "Eagle Slayer," and other works of a similar class, do credit alike to Mr. Bell, the sculptor, and to the Company. We cannot but regard them as the beginning of a very important branch of industry: and so soon as scientific chemists shall have discovered a material which, superseding paint, shall effectually protect iron from oxidation, without destroying the perfection of its surface, or the sharpness of its angles, we have no doubt it will be very largely employed in the formation of objects of the highest class of art.

Those only who are technically acquainted with the extreme difficulty attendant on the conditions of sand casting, can realise the care and labour necessary to the production of any work of such a character; since the slightest under-cutting entails a great amount of labour in the preparation of what are called *loose cores,* which are moulded in sand, and require to be adjusted with extreme delicacy, so as to allow the molten metal to be run in, in order to produce exactly the requisite form. In large castings the various parts frequently have to be made separately, and adjusted together. The skill acquired by the fitters in concealing these junctions is very great; and it requires a practised eye to detect the existence of a well-finished joint. Considerable experience is required on the part of the designer, since provision must be made by him to ensure that the contraction of the metal while cooling shall proceed uniformly over the whole of the casting, since otherwise the portions which retain their heat longest would tear away from those which had set most quickly, and thus the work would be spoilt. On the intelligence of the pattern-maker, too, very much depends, since he has to make allowance in his patterns for the amount of shrinkage, which varies constantly in proportion to the scantling, and quality of the iron used.

There are few points involved in greater obscurity than the exact period at which iron was first cast in England. It is certain that the use of this material was well known both to the Romans and the Saxons; and the smiths of many districts attained great celebrity, their skill being evinced by many remains which have descended to our own days. There is, however, little ground for believing that the practice of casting iron in sand was introduced earlier than the middle of the sixteenth century. To that period the style of the fire-dogs which decorate some of the old mansions of our nobility unquestionably points. Tradition asserts that the railing which surrounds St. Paul's Cathedral was among the earliest applications of cast iron to architectural purposes upon a large scale.

It may appear superfluous to remark upon the great extent to which cast iron has been employed in recent times, in structures of every description; or upon the crowning illustration of its adaptability to such purposes, afforded by the building for the Great Exhibition of 1851.

J. GLEIGH, DEL.

M. DIGBY WYATT, DIREXT.

F. BEDFORD, LITH.

SPECIMENS OF RUSSIAN EMBROIDERY.

LONDON, PRINTED AND PUBLISHED DECR 1ST 1851, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XX.

SPECIMEN OF RUSSIAN EMBROIDERY.

The beautiful and extremely interesting pattern which we offer in the present Plate, mainly as suggestive to the fair sex of an agreeably conventional arrangement of ornament in embroidery, has been executed on velvet by Armenian ladies of the town of Tiflis, in the Caucasus. It forms part of a series of similar elaborate objects, forwarded by the Count Woronzow as a present to his sister, the Countess of Pembroke.

The most cursory examination of this beautiful collection would convey to the minds of all who are interested in such matters a sense of their identity of style with that which so peculiarly characterises Greek or Byzantine art. It is impossible not to recognise a reproduction of the leading types of the latter style in the combats of animals, the singular birds, the frequent introduction of clustered pomegranates, and the rude imitations of the acanthus-leaf and the caulicoli of classic art; as well as in the brilliancy of the colours, and the redundancy of the gold edging used to define all the outlines, which are features alike characteristic of Byzantine and Russian embroidery.

The preservation of the outward types of Byzantine iconography, through the medium of the Greek Church, is forcibly illustrated by the paintings of Saints with which the screens of Russian churches are still decorated, and by the figures and ornaments worked in the coarse enamels so universally treasured in that empire as amulets. It is, therefore, not surprising to find those peculiar constituent elements which form the bases of Byzantine arabesque and foliation manifested in the Caucasian ornaments now before our readers.

There is abundant evidence to show, that in the earlier days after the transfer of the seat of empire to Byzantium a taste for luxury pervaded the corrupt society of that city. All classes sought with avidity the richest fabrics and the most precious furniture; silks were woven and embroidered with the greatest variety of designs; flowers, animals, and birds, with incidents from the life of Christ and the legends of the Menologion, were depicted on the most costly stuffs. St. Asterius describes the tunics and mantles then in use as being covered with a profusion of figures, amounting, in one instance, to as many as six hundred;—a degree of prodigality and luxury which caused him to exclaim that "the dresses of the effeminate Christians were painted like the walls of their houses." So great, indeed, and so universal, was the taste for these objects of personal adornment, that St. John Chrysostom denounces its pernicious influence, declaring that in his time "all admiration was reserved for the goldsmiths and the weavers."

In spite, however, of the denunciations of the Saints, and the calamities which subsequently befell the Greek Church, that establishment has never ceased to impress the senses of its devotees by a bountiful display of the richest colouring and gilding. The splendour of the dresses of the priests, and the richness of the ecclesiastical hangings, were universally in accordance with the gorgeousness of the golden mosaics which line the walls of the churches. Wherever the Greek priests went, gold and ornament appear to have travelled with them; and hence it is that we find, in the most remote districts of Russia, fabrics of the richest materials and most elaborate design, expressly destined for the service of the Church.

The taste for embroidered decorations, thus imported into Russia from Byzantium, was not confined to the

clergy; for an examination of the plates in the great Imperial work on the Antiquities of Russia proves that the robes of the ancient Czars were decorated in a style of lavish splendour which could scarcely have been exceeded. It is evident, also, from other works illustrative of Russian Costume, not only that the different races throughout that vast empire indulge, on festivals and state occasions, in a profuse display of embroidery, but that many districts possess a style of ornament peculiar to themselves; doubtless modified from the original Greek type by the circumstances of their affinity to and intercourse with the surrounding tribes. The Oriental element has, no doubt, exerted a favourable influence on Caucasian embroidery; since the constant traffic which passes through the Caucasus, from Persia and Turkey to the manufacturing districts of Russia, and *vice versâ*, must have familiarised its inhabitants with Oriental customs, and has very probably tended to maintain a predilection for this luxurious art.

One branch of the art of embroidery, which has long been universally popular in Russia, is that of the embroidery of leather. We learn from M. Erman* that "the inhabitants of the town of Torjok are all engaged in making various articles of Russia leather, which they either embroider with gold and silver, or unite in patterns of different colours. These productions have lately become an article of the Russian export trade. The Russians learnt this art from the Tâtars, whom they soon surpassed; and the name 'Kasan boots,' now usually given to the boots and shoes made in Torjok, points to a Tâtar origin: for, among the Russians, 'Kasan' was originally the land of the Tâtars. The leather used in this manufacture is not prepared at Torjok, but is brought from the capital." Of this variety of Embroidery many admirably executed specimens were contributed to the Exhibition; but as they displayed no very striking beauty or peculiarity of design, we have not considered it necessary to engrave any of them.

* "Travels in Russia, Siberia, &c., by Adolf Erman, translated by W. D. Cooley." 1848.

PLATE 21

J. A. VINTER, DEL ET LITH.

M. DIGBY WYATT, DIRECT.

"CASSETTE" CARVED IN IVORY, EXHIBITED BY MATIFAT OF PARIS.

LONDON, PRINTED AND PUBLISHED DEC.R 15TH 1851, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XXI.

COFFRET, OR JEWEL-CASE,

CARVED IN IVORY, EXHIBITED BY MATIFAT OF PARIS.

THIS beautiful casket, which, from the purity of its form and the delicacy of its execution, is worthy to have graced the toilet-table of a Faustina or a Poppæa, is the design of M. G. Dieterle. This young artist, was appointed principal designer to the Royal Manufactory at Sèvres, immediately after the Revolution of 1848. He is favourably known to the Parisian public, not only as having originated many of the most admirable objects in the Sèvres department of the Great Exhibition, but by his compositions for the decoration of the Louvre. In conjunction with M. Séchan Dupleschin, he has also contributed designs for much of the striking scenery, which has procured universal approbation, for the *spectacles* of the Grand Opera and other theatres of Paris.

The successful execution of the design now engraved has been presided over by the refined taste of M. Matifat, who himself received an artistic education, having been articled at an early age to Vechte, the celebrated sculptor and chaser in metals. Succeeding to the establishment of his father in 1842, he considerably extended its capabilities; and bringing to bear upon his business the experience of his education, was enabled to elevate the productions of his *atelier* to the highest range of artistic excellence. In the last Parisian Exposition he was awarded a silver medal; and his works received most favourable notices from the French papers, the "Art-Journal," the "Journal of Design," &c. Among the principal objects which he has executed may be especially noticed two splendid cabinets, in the style of old boule, for which he received a commission from Sir Watkin William Wynne, Bart.

M. Matifat's contributions to the Great Exhibition were especially distinguished by their originality, and the amount of thought bestowed upon their fabrication. Whether we regard the variety of outline of his lamps, the forms and processes of ornament which decorate his vases, or the harmonious combination of lines in his small bronzes, it would be unjust to refuse him credit for at least as much freshness and power of design as was displayed by any other exhibitor in the same departments of industry.

The coffret, or casket, now engraved, is a charming specimen of the revival of the species of art known to the ancients as chryselephantine; that is, one in which the sculptor produces his effect by the combination of ivory with gold and other metals. We propose, in the present notice, to give a brief sketch of the history of that art among the ancients, as introductory to the subject of recent and actual ivory carving.

The many references in Holy Writ to the trade in ivory, and the singular relics of sculpture in that material which the Assyrian researches of Mr. Layard have brought to light, carry back to the remotest periods the records of the abundance of that material, and the skill which had been attained in the art of carving it. We cannot, therefore, be surprised to find classic authors designating that mode of sculpture, which consisted of a mixture of gold, wood, ivory, &c., as "the ancient" style. Its origin is by these writers usually ascribed to Dædalus. Two sculptors, whose existence is less fabulous—Dipænus and Scyllis of Crete—are recorded to have worked, not only in the Toreutic manner, but to have made the hair of their statues in ebony, and the buskins in ivory. At the temple of Dioscuros, at Argos, the most ancient statues of this kind were to be found; and from the rude beginning they displayed, there can be little doubt that the most exquisite Greek chryselephantine statues were subsequently elaborated. Twenty statues of gold and ivory, "executed in the ancient style," were

contributed to the decoration of the Heræum of Olympus by the two brothers Doryclidas and Medon, pupils of the last-named artists.

Pausanias speaks highly of a series of statues representing the Hours, which were executed in ivory by Smilis, a sculptor, who lived about 560 years B.C. These figures were represented as seated on thrones, and were placed beside a statue of Themis, one of the most celebrated productions of Doryclidas.

About 525 years before Christ, Calachus produced a statue of Diana at Sicyon, in gold and ivory, which, though somewhat hard in style, was much admired. Endæus worked in the same manner, and executed a celebrated winged Minerva, principally in wood, and a statue of the same goddess in ivory, at Erythræ. Hegesias, or Hegeas, succeeded, about 491 B.C.; and, somewhat later, Calamis executed a figure of Æsculapius, in gold and ivory, at Sicyon. This city, indeed, appears to have been highly celebrated for this species of art, since the statue of Juno of Argos was produced by Polycletes, a native of Sicyon,—so able an architect, and so good a sculptor, that one of his statues was regarded by his contemporaries as the standard of proportion by which the excellence of similar works was generally estimated. This artist lived about 459 years B.C.

In approaching the age of Pericles we meet with a remarkable concatenation of circumstances, tending to make this period the culminating point of chryselephantine art. Seneca relates that the philosopher Democritus, who lived about this time, discovered the means of softening ivory; and, under the immortal Phidias, Athens and other cities of Greece were embellished with a number of colossal statues in this style. The artistic life of Phidias probably extended from about the seventy-fourth to the eighty-eighth Olympiad. His renowned Minerva of the Parthenon was finished in the second year of the eighty-fifth Olympiad. A just idea of the grandeur of this statue, and the technical peculiarities of its execution, may be formed from an examination of M. Quatremere de Quincy's admirable restoration of it. In the first year of the eighty-seventh Olympiad, Phidias completed his great Jupiter in the same style.

Among the most celebrated pupils of the last-mentioned artist, we find the names of Alcamenes of Athens, Scynnus of Scio, and Eucadmus. A Bacchus, by the former of these, was very generally admired. Theocosmos, who studied in the same school, commenced a colossal Jupiter Olympus at Megara, of which he was only able to complete the head, the remainder having been executed in terra cotta and plaster.

From the period of this last-named work (about 347 B.C.) a long interval occurs, in which a practice of covering statues with a species of encaustic varnish of white wax was adopted,—probably to give the effect of ivory, and to avoid the labour and expense entailed by the employment of that material. Praxiteles (about 336 B.C.) brought the latter process to perfection.

The art of sculpture in ivory, which thus appears to have declined considerably in Greece, was extensively adopted in other countries. Thus we find that, in Egypt, the ship of Ptolemy Philadelphus was adorned with ivory statues, wonderful in their workmanship and magnificence; and thus it was that Nicomedes, taking Bithynia, between the years 279 and 251 B.C., executed several works in the same style.

Towards the year 170 B.C., Antiochus Epiphanes, the great protector of learning in Syria, endeavoured to revive this among other arts in Greece. He employed Cossutus, a Roman architect, to continue the erection of the temple of Jupiter Olympus at Athens, causing a great number of ivory and gold statues to be made there. It was his desire to place the Phidian Jupiter in the temple at Jerusalem, but, failing in that attempt, he succeeded in producing a colossal Jupiter at Antioch, in imitation of that of Phidias. Excited, probably, by this revival, there is reason to believe that the sons of Polycles (to whom Winckelmann ascribes the Borghese Hermaphrodite) made a Minerva Cranea, in gold and ivory, near to Elatea.

The first work of this kind which we find mentioned as executed at Rome was by Pasiteles, a Greek artist, who settled there about seventy-five years B.C. Among his productions in the ancient style was a Jupiter in ivory, for the temple of Metellus. There is little ground, however, to suppose that ivory statues were popular in the early ages of Rome; since it is not till we approach the Christian era that many traces can be found of the existence of the art. The Olympian Jupiter was yet existing at Athens in the reign of Caligula, A.D. 37, and that monarch is recorded to have been anxious to procure its transport to Rome. Under the auspices of the great reviver, Hadrian, many chryselephantine statues were executed at Athens; and down to as late a period as A.D. 150, the art continued to be occasionally practised. From that time, however, the connexion between ivory and the precious metals appears to have ceased; and the practice of ivory carving is only to be traced in its application to small objects, such as the consular diptychs, &c.

Of the peculiarities of style which distinguish the early Christian carvings, and the successive steps which lead from them to the refined productions of Jean Goujon and Du Quesnoy, it will be our duty to speak on a future occasion.

M. DIGBY WYATT, DIRECT.

F. BEDFORD LITH.

SILK BROCADES_BY CAMPBELL, HARRISON & LLOYD, OF SPITALFIELDS, FOR HOWELL JAMES & Co., OF LONDON.
AND BY VANNER & SON OF SPITALFIELDS.

LONDON. PRINTED AND PUBLISHED DEC.R 15TH 1851, BY DAY & SON, LITHOGRAPHERS, TO THE QUEEN.

PLATE XXII.

SILK BROCADES,

MANUFACTURED BY CAMPBELL, HARRISON, AND LLOYD, OF SPITALFIELDS, FOR HOWELL, JAMES, AND CO., OF LONDON, AND BY VANNER AND SON, OF SPITALFIELDS.

THE brilliancy of colour and finished execution of the two silks we have engraved, bear satisfactory testimony to the perfection which the processes both of dyeing and silk-weaving have attained in this country. Although the examples exhibited by Messrs. Howell, James, and Co., were excelled in elaboration by a few productions, such as the extraordinary silk contributed by Messrs. Lewis and Allenby (the manufacture of which involved the use of no less than 30,000 cards and 100 shuttles), they illustrate even more satisfactorily the staple condition of the best class of silk goods of Spitalfields production.

It is a curious evidence of the inconstancy of that fickle goddess, Fashion, that the style of these patterns—expressly produced for the Great Exhibition—is already passing out of vogue; and smaller ornaments, and flowers of more tender colours, are rapidly superseding them in popularity. For the purpose of illustrating a series of such fluctuations, we had examined many of the patterns of past years; but so constantly did the same elements of ornament recur in them, that it would have been difficult to have classified the motives of their design, and impossible, without numerous diagrams, to have conveyed any idea of their sequence or characteristics. We determined, therefore, to confine our present observations to a general notice of the history of the silk-trade.

While various classic authors bear testimony to the fact that raw silk and silken garments were known to the principal nations of antiquity, the almost fabulous prices recorded to have been paid for that material prove also its extreme rarity. These scanty supplies were obtained from China and from India. We learn from the interesting notices collected by Mr. Porter,* that "silk was very little known in Europe before the reign of Augustus, and that it long remained extremely costly." In spite, however, of its great expense, the patrician ladies frequently indulged in the use of garments woven entirely of silk; the inferior classes, both males and females, making use of robes in which a portion only of silk was interwoven with a cheaper material. The luxurious habits of the Romans accompanied them to Byzantium, and the supply of their wants afforded a rich harvest to the Persians, who monopolised the trade with India and China. The prices, however, at which the Persian merchants delivered their goods to the inhabitants of Constantinople, were so outrageous as to lead to every possible endeavour on the part of the Greek emperors to obtain the products of the East through other sources. Justinian, after failing in several attempts to force a supply, at last caused the almost total extinction of the trade. Singularly enough, however, at this moment relief came from a quarter whence it was least expected. Two Persian monks, who had been employed as missionaries in some of the Christian churches established in China, returning to Constantinople, brought to the Emperor the result of their observations upon the Chinese method of obtaining the raw material. Urged by the promise of a great reward, and eluding the jealous observation of the natives, they succeeded in the acquisition of a quantity of silk-worms' eggs. In the year 552 they returned in safety to Constantinople, with their store of

* In his excellent "Treatise on the Origin, Progressive Improvements, and Present State of the Silk Manufacture."—LARDNER'S *Encyclopædia*, vol. xxii.

eggs preserved in a hollow staff. By carefully imitating the Chinese processes, these monks at last succeeded in producing raw silk in abundance, and in procuring for Europe a good breed of silk-worms.

Thus introduced into Byzantium, the manufacture was immediately monopolised by the sovereign, who took care to charge his faithful subjects most exorbitant prices for the commodities he supplied. The propagation of the silk-worm was, however, soon extended to other districts; and for many centuries the Greeks generally, through the commercial intervention of Venice, supplied the whole of the Western parts of Europe with silk. Mr. Porter observes, that the estimation in which the manufacture was held continued so high, that its products were considered worthy of being made regal gifts. Thus in the year 790 the Emperor Charlemagne sent two silken vests to Offa, king of Mercia. The national monopoly which commenced in the reign of Justinian, continued undisturbed for a period of not less than 600 years, until the reign of Roger I., king of Sicily. Among the precious spoils of his invasion of the Greek empire, this sovereign brought back many Greek silk-weavers, to whom he granted life and sustenance on the condition only of their imparting to his subjects the secrets of their art. Several writers, quoted by Muratori, bear testimony to the beauty of the silks which were consequently produced; and the richly-decorated costumes, of which such interesting types are presented by the figures in the ancient mosaics, no doubt derive much of their brilliancy from the skill of the Sicilian weavers. By degrees, a knowledge of the processes of the silk manufacture spread throughout Italy, and was carried into Spain, obtaining extreme popularity among the Moors.

From the commencement of the thirteenth century, the trade in silk generally appears to have been most extensively carried on in Venice and Genoa, whilst the art of spinning was mainly conducted at Bologna, and that of weaving at Florence. The merchants of Antwerp, who maintained the principal commercial relations with the Italian cities, exchanged in large quantities the cloths of the west of Europe for the silks of the East, and eventually contrived, in the beginning of the fifteenth century, to procure a knowledge of the processes for the artisans of their own country.

From its establishment in Flanders, there is little doubt that the manufacture was soon introduced into England; since, in 1455, a company of silk women was established in London. On the occasion of the capture of Antwerp by the Duke of Parma, in 1585, it is stated that a third part of the merchants and workmen engaged in the silk trade fled to England, and settled there. These refugees laid the foundation of that manufacture which, at the latter end of the reign of James I., had grown into a thriving condition, and was incorporated in the year 1629, under the style and title of "the Master, Wardens, Assistants, and Commonalty of Silk Throwsters." Passing by the old stories of Henry the Eighth's silk hose, and Queen Elizabeth's black silk stockings, which would appear to have been of Spanish production, we may turn to the invention of the stocking-frame by William Lee, a poor student of St. John's College, Cambridge. So great a revolution did this occasion, that the English silk stockings speedily attained an enviable notoriety throughout Europe.

The French silk-trade (which had been established by Louis XI. at Tours, in 1480, and at Lyons by Francis I. in 1520) had, under the auspices of Henry IV., attained a state of prosperity destined to be sadly interfered with by the unfortunate revocation of the Edict of Nantes, which, in the year 1685, banished a vast number of the most intelligent and industrious of the French population. Out of about 70,000, who made their way to England and Ireland, a large number had been engaged in the silk-trade. Settling at Spitalfields, they introduced many improvements into the English manufacture. The silks called alamodes and lustrings were introduced by them; as well as brocades, satins, black and coloured mantuas, black paduasoys. ducapes, watered tabbies, and black velvets, all of which fabrics had previously been imported. A great commercial advantage was gained by this country in the introduction, by Sir Thomas Lombe, in 1719, of the Italian processes of throwing silk; that is, of reducing it from the original filament to the states known as *tram* and *organzine*, necessary for forming respectively the weft and the warp of all silken fabrics. By this improvement the English were enabled to compete successfully with those countries upon which they had so long depended for the greater part of their supply of silk twist. The production of figured patterns by means of the draw-loom, and its attendant draw-boy, was completely superseded in the year 1823, when the Jacquard loom was first introduced into Spitalfields. Attempts to establish factories in which it might be worked, were made at Manchester and Macclesfield. These attempts were all happily crowned with success; and whilst formidable rivals to Spitalfields have sprung up in the manufactories of those towns, the former has nevertheless been enabled, by judiciously keeping pace with every improvement in machinery, to maintain its old high position in the production of the best kinds of plain and fancy goods.

M. DIGBY WYATT DIRECT

F. GODFORD DEL. ET LITH.

THE CRYSTAL FOUNTAIN

& OSLER OF LONDON AND BIRMINGHAM

[illegible] FOUNDERS TO THE QUEEN

PLATE XXIII.

THE CRYSTAL FOUNTAIN.

BY F. AND C. OSLER, OF BIRMINGHAM.

Those upon whose memories the first sight of the glorious Transept of the Great Exhibition has stamped a clear and lasting image, cannot fail to remember that striking object which formed so conspicuous a feature in the middle-ground of the picture then presented to their view.

It would be difficult to imagine a central ornament more appropriate for a Palace of Glass, than a Crystal Fountain; and there is no doubt that as a striking novelty in the application of the material, and as a pleasing and graceful object in itself, it must, in a pre-eminent degree, have excited the interest and admiration of the foreign visitors, who responded to the invitation accorded to them on the occasion of the first Exhibition of All Nations. Never before had a piece of glass-work been executed, involving the treatment, in casting, cutting, and polishing, of blocks of glass of a size so large, and of a purity so uniformly faultless.

The firm by whose exertions this superb object was produced, were already favourably known to the public by the taste which has always characterised their ordinary trade-productions. Having been led some years ago to execute a splendid candelabrum in glass, for the late Pacha of Egypt, the Messrs. Osler acquired, in the course of its formation, such an amount of practical dexterity, as induced them to undertake with confidence the preparation of a still more magnificent ornament, of a similar nature, twenty feet in height, expressly as a contribution to the Birmingham Exhibition, held at Bingley House in 1849. This latter work was purchased by the Nepaulese Ambassador.

Excited by the admiration universally elicited by these productions, the Messrs. Osler determined that their chief contribution to the Exhibition of All Nations should far surpass their previous attempts. Mr. Follett Osler has communicated to Mr. Hunt's "Hand-Book to the Great Exhibition" an interesting account of the difficulties which presented themselves in the course of executing the Crystal Fountain; and as we feel ourselves unable to describe them in language more graphic than that gentleman has employed, we take the liberty of adopting his words:—"The experience gained in making the candelabra for Egypt has been of considerable use to us in making the great Fountain; though the difficulties attendant on the latter work were far beyond what we anticipated when we first entertained the idea of its construction. Indeed, for some time it progressed so slowly, that we feared we should be obliged to abandon the undertaking. First, the moulding of such large pieces of glass is very troublesome and difficult, and the waste very considerable. The annealing also is very hazardous. If the kiln in which this process takes place is at all too hot, the work is bent out of form by its own weight; and if too cool, fracture is certain to take place, either immediately, or during the process of cutting—that is, grinding and polishing. This annealing, or cooling process, occupies a space of from six to seven days; and as only a comparatively small portion of the whole can be made at once, much time is consumed. Such parts as have stood the moulding and annealing, have next to be submitted to grinding, and here much additional risk is incurred; for every part is richly cut all over. Upwards of four tons of crystal-glass were used in the construction of the Fountain now in the transept of the Exhibition. The principal dish is upwards of eight feet in diameter, and weighed, before cutting, nearly a ton. The shells round the base weighed nearly fifty pounds each previous to cutting. The public can really form no conception of the labour and troubles to be gone through in producing this work, though I think the glass trade must

be pretty sensible of it. After all, there is not only the glass, but the construction and engineering difficulties, if I may so call them, to be overcome. We have had the kind advice and assistance of Mr. Barry, who has taken a great interest in the work, and he has aided us with his valuable advice. We look to this rich and massive style of work as opening a new feature in the trade, a smaller sample of which (a pair of candelabra) may be seen in our case in the gallery. These were executed by command of His Royal Highness Prince Albert, and were presented by him to Her Majesty on her birth-day in 1849, and are placed in the drawing-room at Osborne. They are upwards of eight feet in height, and carry fifteen lights each."

In reference to the peculiar brilliancy of Messrs. Osler's glass, it must be remembered that the term *white*, as applied to glass, is only comparative, since no glass is perfectly colourless; and to the practised eye of the glass-maker there exist no two pieces of the same tint or shade. Mr. Apsley Pellatt, who has directed his attention particularly to the influence of oxygen on the colour or tint of flint-glass, read an interesting paper on the subject at the Society of Arts, in the autumn of 1849. He therein dwelt upon this influence in two distinct particulars; first, in the action of oxygen upon the glass-mixture during its melting or founding, and whilst in a state of fusion; and, secondly, during its annealing, or gradually cooling. Mr. Pellatt describes the constituents of flint-glass as "silica, lead, carbonate of potash, and nitrate of potash. The silica is found sufficiently pure, as fine sand, which abounds in various districts; that from Alum Bay, in the Isle of Wight, being most esteemed. The protoxide of lead (litharge), or the deutoxide (red lead), is the state in which the lead is used; and the potash is the ordinary *curl*, or nitrate of potash of commerce. These, when mixed in certain proportions, and subjected to a strong heat for sixty or seventy hours, produce flint-glass. The purer the *metal* the more transparent the glass; but, although all the materials be chemically pure, a colourless glass is not the product. Owing to some chemical change which takes place during the melting, the glass is tinted with green." In a notice of this subject in the "Journal of Design" (vol. ii. p. 182), it is observed, that this phenomenon is generally stated to arise from the presence of oxide of iron; but the result of Mr. A. Pellatt's experiments goes far to demonstrate that the defect is in truth owing to the want of a necessary proportion of oxygen in the mixture. To supply this want, and to counteract the consequent tendency to a green tint, the oxide of manganese, which has the property of giving off its oxygen very slowly, is constantly introduced. Should, however, the manganese be used in superabundance, a purple tint is induced, which requires a certain amount of carbon to neutralise its action. The greater the heat to which the materials are to be exposed, the greater is the quantity of manganese required. The broad result of Mr. Pellatt's inquiries is a conviction that the changes in the colour of glass are due to the presence or absence of a due amount of oxygen.

So fine are the proportions in which the various elements which constitute perfection in glass manufacture require to be combined, and such grave defects do the slightest impurities entail, that it is not easy to realise to the imagination the amount of thought, study, and attention which the Messrs. Osler must have devoted to the production of this beautiful and extraordinary work.

INDIAN KINCOB PATTERN _ WOVEN AT AHMEDABAD

PLATE XXIV.

INDIAN KINCOB PATTERNS,

WOVEN AT AHMEDABAD AND BENARES.

The Great Exhibition displayed, probably, no more striking deviation from the ordinary relation in which the method of manufacture stands to the finished article, than was evidenced by the extraordinary discrepancy between the rudeness of the Indian looms and the refined beauty and delicacy of the fabrics produced by them. A very few lines of description will serve to indicate at once the simplest series of operations by which textile goods can be fabricated, and the customary practice of the Indian weaver. The workman first determines the width and material of the stuff he is about to make, and selects as many skeins of yarn or twist, of uniform length, as he wishes to have threads in the width of his fabric. He then prepares two bamboo rollers, and a fine comb made of strips of split bamboo tied together. Attended by his wife, or some other assistant, he then carries out to a field the materials he has prepared. The ends of the threads are first passed through the interstices of the comb, and then secured to one of the bamboo rollers; this is done to every thread, until the whole series, making up the width, are attached in a uniform line. The roller, thus prepared, is fixed to the ground; the skeins are then undone, and the threads are extended to their full length. The comb, being drawn along to the end farthest from the first roller, prevents the threads from entangling, and retains them at the same distance apart at which they were secured to the first roller. The ends are then secured to the second roller; the practice of the workman enabling him to give an exactly similar amount of tension to every thread. The first roller is then wound round, and thus the warp for the fabric is prepared.

The weaver then takes himself and his apparatus, either to a shady spot under a tree, or to an open shed if he should be fortunate enough to possess one. He there fixes one of his rollers in clefts cut in posts a few inches high, and then partially unrolling the warp, he extends the threads horizontally, and secures the second roller in a similar manner to that in which he had already fixed the first. A hole being dug beneath one of the rollers, the weaver places his feet in it, seating himself on the edge. He then suspends above his head, at a foot or two in front of him, two pieces of bamboo, each one having half as many strings depending from it as there are threads in the width of his warp. If we might imagine these threads to be distinguished by odd and even numbers, it would be correct to say, that by means of loops in the dependent strings he then attaches all the odd-numbered threads to one piece of bamboo (*Anglicè*, a heckle), and all the even to another. Each of the cords which, passing over either a branch of the tree, or a beam of the shed, serves to suspend a bamboo heckle, having a loop tied to it, through which is passed the great toe of the weaver's foot, enables him, by alternating his pressure upon the loops, to raise or depress each alternate thread of his warp. He then prepares his shuttle, which is more like a long knitting-needle than an ordinary English shuttle, winding on it a length of the thread which he determines to make use of for his weft or shute.

Seating himself in front of his work, and pressing down one of the loops, so as to raise the odd-numbered threads above the even, he throws his shuttle from one side to the other, leaving a weft-thread behind: this thread he presses up to the bamboo roller with his long shuttle (thus superseding the use of the "batten"), and then raising his foot so as to release the tension of the first loop, and pressing on the second, he depresses the odd-numbered warp-threads, and raises the even-numbered. The crossing of

these two, of course, confines the weft-thread first thrown. The weaver then jerks back the shuttle, leaving another weft-thread behind, to be pressed up and confined in the same manner as the first; and thus by alternately pressing down the loops, and throwing the shuttle from side to side, the ordinary operation of weaving is carried on in India.

Pattern weaving, it must be evident, is produced by making a difference either in colour or texture, or in both, between the warp and the weft-threads, and causing one or other to predominate on the surface of the fabric. This is effected by increasing the number of heckles, and attaching the warp-threads to them in the succession necessary to vary the pattern, by allowing the shuttle at every throw to pass over and under the number only previously arranged to produce the required variation of pattern. As the weaver, when single-handed, can only work the heckles by the pressure of his feet, the range of patterns producible by one workman only must of course be limited. Any amount of elaboration may, however, be attained by increasing the number of heckles, and employing an assistant (the drawboy of the old English draw-loom) to elevate or depress them, in regular succession, between the throws of the shuttle.

When we reflect on the richness and beauty of patterns such as those we engrave, and generally on the variety and perfection with which every fabric, from the common cottons of Bengal to the Kincobs and tissues of Benares, the muslin of Dacca and the shawls of Cashmere, are executed throughout the whole of the Indian empire, we cannot fail to be impressed with admiration at the patience, ingenuity, and dexterity, with which the natives are enabled to produce such extraordinary results, with such wonderfully simple machinery.

The Benares cloth of gold has long been celebrated, and as large quantities are purchased by the wealthier pilgrims who visit the holy city from every part of India, its reputation has spread over the whole of the continent. Some of the richest and most beautiful of the Benares fabrics were exhibited by Baboo Deo Naryan and Gopinauth Debersaad.

The largest and most important of the patterns given in Plate XXIV. was produced at Ahmedabad, and is a portion of a square brocade which was contributed to the Exhibition by Mr. Copland, of London.

Up to the beginning of the eighteenth century, Ahmedabad was the centre of the prosperity which reigned in the province of Guzzerat, in the district of Bombay, under the old Mohammedan sway. The monuments, rich buildings, and commerce of the city, having been famous throughout the province of which it was the capital. On falling into the hands of the Mahrattas, who retained dominion over it until the beginning of the nineteenth century, it sunk into sad tribulation. The extortionate taxes and duties levied by the Mahratta chieftains almost entirely destroyed its manufacturing capabilities and its commercial relations. In 1818, when Ahmedabad came into the possession of the East India Company, successful efforts were made to foster its trade, and to develope its resources. Under the secure and just dominion of the Company, the manufacturer and merchant have been enabled to reanimate and to take advantage of the traditions of skill and beauty which had lingered in the old families, and there is little doubt that the charming pattern we engrave is but a revival of one of the old Mohammedan designs of the palmy days of the city.

We gather from the Official Illustrated Catalogue of the Exhibition a few particulars concerning the actual condition of the manufactures of Ahmedabad. It appears that the most important are three in number: silk and gold brocade, ribbons, and paper. Of the former, we learn that the constituent materials are derived,—the silk from China, Bassora, and Calcutta, the gold and silver thread from Ahmedabad itself, and the cochineal from England. It is estimated that not less than 40,000 rupees' worth of goods are annually consumed in the city and its surrounding district, and at least 300,000 rupees' worth are manufactured for the export trade. These goods are consigned, in India, to Bombay, Baroda, Poona, Gwalior, Hydrabad, and Rajpootana; and out of India, to Sindh, Cabool, Arabia, Persia, and China.

Of the ribbon trade, we learn that the raw silk is procured from China—the dye-stuffs (with the exception of indigo, the produce of Kandeish) through Bombay; that no less than 20,000 rupees' worth are consumed in the city and its district; and that 100,000 rupees' worth are annually forwarded to Baroda, Bombay, Rajpootana, Gwalior, and all parts of Guzzerat.

Of the paper trade, it appears that 20,000 rupees' worth are annually consigned to Bombay, and 15,000 to Baroda. The paper is made from hemp "tant," by means of 250 mills or pounding machines, worked by the feet of the inhabitants, of whom no less than 2000 are employed daily in the manufacture.

PLATE XXV.

VICTORY,

A STATUE IN MARBLE, BY RAUCH OF BERLIN.

Dr. Franz Kugler, one of the most learned and original of modern critics of the Fine Arts, in sketching their future prospects,* has characterised the three influences which contend for supremacy in modern sculpture, as the Antique, the Natural, and the Romantic. The artist who would steer successfully between these apparently conflicting currents can only do so by availing himself in turn of the influence of each; and thus it is that those sculptors of the present day who, like Gibson and Rauch, read nature through the antique, not disdaining occasionally to take advantage of the resources of romantic composition, to heighten the human interest of their designs excite our liveliest sympathies, attain the greatest success, and achieve the noblest works. Thus it is that the last-mentioned artist, a friend and favourite pupil of Thorwaldson, has justly acquired a world-wide reputation in carrying on that emancipation from classical restraint which his great master commenced. By the introduction of historical portraiture, the individualities of life and romantic incident, into severe and monumental works, Rauch has testified how successfully productions of the highest class of art may be made available to record graphically to future generations the events of history, and the personal peculiarities and external forms of genius.

Christian Rauch was born on the 2d of January, 1777, at Arolsen, in the principality of Waldeck, and received his first lessons in art from the sculptor attached to that court. At twenty years of age he arrived at Berlin, where his talents soon procured him powerful and kindly patronage. In 1804 he was enabled to travel, and having first visited France, he betook himself to Rome, where for several years he laboured assiduously in the studio of Canova, and in that of Thorwaldson. The reputation which some of his works had acquired in Prussia, even at his then early age, led to his recall to Berlin, in 1808, in order that he might receive a commission for the monument of Queen Louise, then recently deceased. M. Fortoul remarks that, on his return to Italy, with the intention of there executing the principal figure for this tomb, "he found everything changed. In his first residence he had recognised the reproduction of ancient art, in the most exact and refined types. On passing the Alps for a second visit, he encountered Cornelius and Overbeck, who had already undertaken the restoration of the severest forms of Christian art. Notwithstanding his early impressions, he readily received those ideas which paved the way for a new phase of art."†

Without losing that exquisite appreciation of abstract beauty with which his studies under Canova had fortified his powers, Rauch succeeded in animating his productions with much of that enthusiasm which distinguished the theories and works of his above-named great contemporaries. M. Fortoul adverts with considerable judgment and discrimination to the evidence afforded by the various works of Rauch of his alternate yielding to these antagonistic influences. He remarks that the figure of Queen Louise, upon her monument at Charlottenberg, is a fine portrait, composed, modelled, and attired after the antique, but in which, at the same time, a true and feminine emotion pierces through the cold conventionalities of art.

* "Handbuch der Kunstgeschichte," 2d ed. chap. 22.

† These particulars of our artist's career are derived from the works of the Count Raczynski, "De l'Art en Allemagne, par Hippolyte Fortoul," the "Kunstblatt," the "Art-Journal," and other sources.

The six winged Victories, which decorate the interior of the Walhalla, although designed with more freedom, and executed with greater vigour, preserve an essential resemblance to the artist's earliest mythological compositions. In two beautiful figures of the Danaides (a commission from the Emperor of Russia), there breathes a pure and genuine grief, expressed in a manner somewhat more human than that which the laws of classic art would recognise as within the restricted province of the sculptor.

One of the most remarkable qualities of Rauch is the power he possesses of infusing into his portrait-statues that ideality of expression with which he desires to impress the beholder, without sacrificing the individuality of personal appearance. Thus, in his celebrated statues of Scharnhorst, Bulow, and Blücher, he has indicated the leading characteristics of the military genius of those great commanders; giving to the first that calmness which is inspired by utter insensibility to danger; to the second, the energy which seeks the combat; and to the third, an aspect of desperate resolution, which feels, courts, and triumphs over danger. These figures, of which the two former are in Carrara marble, and the third in bronze, are placed opposite to the guard-house at Berlin, designed by Schinkel. Their pedestals are decorated with a series of bas-reliefs, which successfully illustrate the lessons derived by Rauch from the great master of that mode of expression,—Thorwaldson. Around the pedestal of the statue of Blücher the artist has embodied, in forms and with episodes of great beauty, the deliverance of the nations of Germany from the miseries of war.

M. Fortoul remarks that the romantic spirit displayed in these bas-reliefs becomes still more evident in the latter works of Rauch. His statue of Albert Durer, erected in 1840 on the principal *Place* at Nuremberg, is a noble rendering in bronze of those commanding features, and that sad, though intellectual expression, which the artist has preserved to us in those curious portraits of himself, which are still to be met with in some of the galleries of his native city. In the fine group, also in bronze, which was presented by the Count Raczynski to the cathedral of Posen, the sculptor has represented the two first Christian kings of Poland, Miceslas and Boleslas; and in the general arrangement of the subject and the treatment of the accessories, has worked rather in the style of the great Bavarian sculptor, Schwanthaler, than in that which we may regard as peculiarly his own.

The crowning work of Rauch's life is unquestionably the grand equestrian statue in which military Prussia has commemorated her great military hero, Frederick the Great. On this production the artist lavished every resource of his art, elaborating its details with all the enthusiasm of a student. Not content with his own capabilities of imitating nature, he undertook a voyage to St. Petersburg, in order to take lessons from a German artist, who had devoted himself exclusively to the analysis of the finest forms of the horse. Returning to Berlin, he entered deeply into the study of those conventions which Phidias and other sculptors of antiquity have sanctioned by their example, and, finally, composed a noble animal, worthy to bear the great hero of his fatherland. At the angles of the pedestal Rauch has represented four of the generals of the army on horseback, and between them are grouped other distinguished soldiers of the period. In these figures the artist has successfully resolved the much-debated question of the applicability of modern costume to the purposes of commemorative sculpture, redeeming, by the vigour of the action, and the intelligence of the heads, even the uncompromising rigidity of pig-tails and gaiters. It must have been a proud day for Rauch when, in the present year, this, his greatest work, was inaugurated, and when he received from the hands of his sovereign those honorary distinctions to which his merit as an artist had so eminently entitled him.

It is fortunate for Germany that Kiss, the favourite pupil of Rauch, appears to inherit much of the genius of his master—than whom few understand more profoundly the true conditions of the sculptor's art. It was our happy privilege, on being present at the first interview which, for very many years, had taken place between Rauch and Gibson, to hear those two great sculptors discuss the leading principles of their art, and compare their relative experiences.

It has been frequently remarked that that peculiar dignity and military grace which distinguishes the male statues of Rauch, appears to be an impersonation of the physical characteristics of the artist himself; whose noble figure and manly bearing, notwithstanding his advanced years, are truly remarkable.

The statue which we have engraved, and which was purchased by Her Majesty the Queen, is a *replica* of the original figure executed for the King of Prussia, and which now forms one of the most beautiful ornaments of the Royal Palace of Berlin.

21603

M. DIGBY WYATT DIREXT

J. SLIEGH SEL. ET LITH.

PRINTED MUSLINS BY DEPOUILLY & Co OF PARIS

LONDON PRINTED AND PUBLISHED JAN.Y 1ST 1852 BY DAY & SON LITHOGRAPHERS TO THE QUEEN

PLATE XXVI.

PRINTED MUSLINS,

BY DEPOUILLY OF PARIS.

From time immemorial, the palm of excellence in all matters of fashion has been awarded to France. This long-established reputation has been well sustained by the elegant design and harmonious colouring of the patterns of printed muslins contributed to the Great Exhibition by Messrs. Depouilly; the history and progress of whose establishment afford a remarkable illustration of the difference between the steps which lead to commercial eminence in England and on the other side of the Channel.

Messrs. Depouilly were originally silk-manufacturers at Lyons; and the Jury of the Parisian Exposition of 1819 awarded to them in that capacity a gold medal for the excellence of their garment-stuffs, especially commending the novelty and taste of their productions. The quality of taste has always been regarded as a valuable item in the stock of commercial capital in France; but at the period referred to, we must acknowledge that its importance was but lightly estimated in this country.

In 1823, the medal previously gained by Messrs. Depouilly was confirmed to them, with flattering remarks by the Jury of the Exposition of that year; and the productions of their establishment acquired so much popularity with the Parisian public, that they were induced shortly afterwards to remove to Puteaux, in the department of the Seine, where they gave every variety of finish to woollen, cotton, and silk fabrics. They again received *rappels* of gold medals at the Expositions of 1830 and 1844.

The peculiar talent of Messrs. Depouilly for seizing and embodying the reigning taste, well fits them to excel in the immediate atmosphere of Paris. The productions which constantly emanate from their establishment, "catch as she flies the Cynthia of the minute," and faithfully reflect the fitful movements of French caprice. The term *Indienne*, used by the French to express the most popular form in which cotton-printing is allied to weaving, demonstrates with sufficient clearness the source from which has been derived the art of applying dyes in patterns to goods of a uniform colour.

For many years previous to 1785, printing on cotton had been successfully carried on in England, France, and Germany, but it was not until that year that the principle of copperplate printing, viz. obtaining the impression from indented lines instead of from a surface in relief, was adopted.

In 1789 the celebrated Oberkampf was encouraged by Napoleon to establish a printing-factory at Jouy; and that circumstance led to the congregation in Alsatia of a considerable number of manufacturers, who pursued a growing and lucrative business with great energy and talent. The name of Daniel Koechlin, of Mulhausen, may be regarded as that of the patriarch of French calico-printing. To his skill we are indebted for many scientific applications of discharges, resists, mordants, &c., upon the details of which it is impossible to enter in the present notice. To trace the progress of cotton-printing, as recorded in the annals of successive Expositions of Paris, is, in fact, to find a continued iteration of the name of this great man, who has been worthily called the James Thompson of France. Around Koechlin were grouped many men whose names are classical in the records of French industry, — Gros Davillier, Roman and Co.; Dollfus Meig and Co.; D. Schlumberger and Co.; Hartmann and Co.; and Zuber and Co., may be especially noted as having distinguished themselves in the incipient stages of the manufacture.

The business of calico-printing was early carried on at Rouen, to a great extent—principally through the exertions of M. Henri Barbet—and an extraordinary impulse was given to it in 1835 by the inventions of M. Perrot; but the productions of that locality have never equalled those of Alsatia, or the department of the Seine. The machine invented by M. Perrot—a species of automaton cylinder printing apparatus—speedily obtained great success, and led to a vastly increased production, not only at Rouen, but in the other districts where the trade was carried on.

It has been justly observed by M. Blanqui, that "Alsatia is a model manufacturing country; machine manufacturers, spinning, weaving, printing establishments, all are united there. It is the land of mechanists, designers, and chemists. Nowhere are dye-stuffs more skilfully used than in that district: nowhere are dyers' weeds, madder, cochineal, orchil, &c., applied with more brilliancy or fastness. It is to Alsatia that Europe is indebted for its partiality to those light and graceful fabrics which nowadays decorate, at such small cost, all dwellings, and which so economically clothe all women." It has been equally well remarked by Mr. Ward,* that while, in England, the science of printing has become one of the most beautiful and refined applications of chemical art, and while the attention of manufacturers appears to have been directed almost exclusively to durability and cheapness, the study of design has been to a great extent eclipsed by sterner commercial requirements. "France," he remarks, "has studiously cultivated the art of design, and advanced its professors to the rank of gentlemen. In England, on the contrary, with some exceptions, it has been degraded to a mechanical employment, and remunerated at weekly wages. France has, in consequence, a species of industry to which we have no claim—the production of designs for exportation. The demand for the latter is considerable, and has been rapidly increasing. Small as is the print-trade of France compared with that of England, there are in Paris ten times the number of pattern-drawers that are to be found in London, or in Manchester. Some of these establishments are considerable, and employ from ten to fifteen designers each: and a talented designer receives from 8,000 to 10,000 francs a-year—more than twice the sum paid to similar talent in this country."

Great efforts are, however, being daily made to establish better educational principles in matters of art-manufacture, and to promote that recognition and expression of beautiful forms which can alone lead to excellence of production. Manchester and Paisley, by the beautiful fabrics they contributed to the Great Exhibition, have, however, given us convincing grounds for belief that the day is not far distant when English muslins may be found as original and graceful in form, and as tender in colour, as those of Messrs. Depouilly.

* "The World in its Workshops," p. 243.

M. DIGBY WYATT, DIREXT.

J. MAHONEY, LITH.

VASE IN SILVER, BY HUNT & ROSKELL OF LONDON.

LONDON, PRINTED AND PUBLISHED JANY 1ST 1851, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XXVII.

VASE IN SILVER,

BY HUNT AND ROSKELL OF LONDON.

It is gratifying to be enabled to recognise the fact, that the productions of the successors to the late well-known firm of Storr and Mortimer equal at least, if indeed they do not far surpass, the most remarkable objects, the perfection of which made the reputation of the original house. In point of intrinsic and monetary value, the display made by Messrs. Hunt and Roskell was probably unique in the whole of the Great Exhibition, since it was one which required to be valued by hundreds of thousands of pounds, rather than by thousands only.

Among all the gorgeous objects upon the elaboration of which such almost countless sums had been lavished, there was none which, as a pure specimen of the highest art of sculpture in the precious metals, could excel the beautiful Vase given in the Plate we are now describing. Those connoisseurs who are deeply learned in the manipulative processes of metal-working cannot but appreciate with pleasure the exquisite character of the *repoussage*, and the perfection with which Benvenuto's great stumbling-block, the *saldatura*, has been overcome and concealed. To the practical student and art-workman this Vase alone would afford an admirable text for a lesson, since it perfectly illustrates the appropriate introduction and treatment of every variety of relief and modelling, and the most refined handling of the graver and chasing-tool.

To the artist and designer, the hints it should afford are scarcely less important, since it evidences how easily the greatest boldness and movement in design may be allied to the purest and most severe bounding forms; and how much life and animation the contrast imparts to those portions to which the eye of the beholder should be first conducted. Its composition may also be especially commended, as evincing the purest taste and vigorous imagination allied to a just recognition of the Utilitarian purpose of the object. Thus the structural conditions of a vase are never lost sight of—the handles are real handles, by which the vessel can be lifted—the lid is a real lid, which can be taken off—and that contour which, by association of ideas, we look for in a similar object, is rigidly preserved. Yet, with all this attention to Utilitarian requirements, the highest art has been made subservient to the powerful embodiment of one of the most grand and awful passages of ancient tradition. The Vase and its lofty theme are thus described in a Catalogue of their contributions to the Great Exhibition, published by Messrs. Hunt and Roskell:—

"The Vase" (say they) "is of Etruscan form, embossed from thin sheets of silver, in the highest and lowest possible relief. The subject, which is treated in the style of Michael Angelo, is the destruction of the Titans by Jupiter, who made war upon them for having imprisoned his father Saturn. The giant sons of Cœlus and Terra, seeking to revenge the death of the Titans, made war on the Gods, heaped rock on rock, mountain on mountain, 'Ossa on Pelion piled,' in order to reach heaven. Jupiter routed the foe, who were crushed under rocks and mountains. On the summit of the cover is Jupiter, who, with stern and angry looks, grasps thunderbolts, which he hurls on the presumptuous Titans below. Bordering the cover is the Zodiac circle, in low relief. On the body of the Vase, on each side, are groups of giants—some climbing upwards, some crushed by the rocks hurled by the mighty Jove. Supported by the handles of the Vase, two bold, presumptuous giants stand out in full relief, vainly menacing the father of gods and men. On the foot are fallen distorted figures, representing Vice and Presumption writhing in the agonies of death.

"On the neck of the Vase, in low relief, are two figures, representing Time and Fate; the former with his scythe, the latter grasping serpents. Among the representations in low relief may be recognised Satyrs and Bacchanals in bowers of vine; Neptune in his chariot, drawn by sea-horses, hurling thunder-bolts at the giants, who are casting rocks at him; flies and grotesque insects writhing in a spider's web, alluding to the fate of Arachne. Below one of the handles is Pan; beneath the other a skeleton. Crocodiles, winged monsters, fiery dragons, and other fabulous monsters of sea and land, wage war with one another."

It is to be regretted that Messrs. Hunt and Roskell have not appended to their description some notice of the Artist by whom this most noble piece of work has been designed and executed—more particularly since, if we are rightly informed, it is the production of one whose name among cunning artificers has passed into a proverb. To say that a man can chase metal-work like Vechte, would be to place him at once upon a footing with Cellini, Caradosso, Van Vianen, Wagner, Mertins, Ballin, Briot, and Dassier—so many of the finest qualities of these masters does Vechte unite in his own person. Who that examined the extraordinary, unfinished shield in silver and iron, truly "a specimen of art and embossing," dedicated to Shakspeare, Milton, and Newton, could fail to recognise in that the mind and handicraft of the most accomplished artist?

It is infinitely to the credit of Messrs. Hunt and Roskell, that they are devoting their capital and energies to securing the execution of what must always be regarded as one of the most exquisite specimens of the silversmith's art ever produced; and it is to be equally regretted, that neither the Vase we engrave, the Shield we mention, nor some other grand work of a similar high class, were included in the liberal purchases made by the princely Goldsmiths' Company.

As we shall have occasion, in the course of this work, to notice other objects, over the production of which the genius of Vechte has presided, we shall hope to be enabled to afford some information respecting the life and principal works of this celebrated artist.

I. DEL.

M. DIGBY WYATT DIREXT.

F. BEDFORD LITH.

CASHMERE SCARF END

LONDON, PRINTED AND PUBLISHED JANY 1ST 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XXVIII.

SCARF-END FROM CASHMERE.

As a specimen of the harmonious blending of deep-toned colours, and an agreeable departure from the somewhat too inevitable "tail"-pattern of three-fourths of the shawl fabrics woven at the present day, we feel confident that the merits of the object engraved will be immediately recognised. However beautiful in execution many of the drawings for shawls contributed to the Great Exhibition, by French and English artists, may have been, it was impossible not to have been struck in them by the absence of many of the excellencies which characterise the majority of the Oriental productions.

The valley of Cashmere — the ancient Caspira — has so long been celebrated for its shawls, that the manufacture of that beautiful article of costume, so highly esteemed by Oriental nations, is by some writers believed to have originated there. Possessing unequalled fineness, delicacy, and warmth, the shawls of Cashmere have always maintained the highest estimation in every market of the world; and the choicest examples of them have realised, as is well known, almost incredible prices. Although numerous authors have dwelt in detail upon the subject of the manufactures of Cashmere, considerable difficulty would be experienced by any one who, by going through their writings, should attempt the task of realising for himself a clear idea upon the subject. This difficulty would mainly arise from the fact that he would find his authorities somewhat at variance. The occasional misapplication of a technical term, and the frequently evident want of a right apprehension of the mechanism of the loom, serve to render the meaning of many passages so questionable or obscure as to tend practically to confusion, rather than to explanation. It is, therefore, with some mistrust that we proceed to offer the following remarks, which have for the most part been condensed from the authorities given beneath.*

It must be manifest that every successful production of art-manufacture must exhibit a satisfactory conjunction of three ingredients, — good and fine raw material,—tasteful design,—and skilful and finished execution. In noticing Cashmere shawl fabrication, one of the highest orders of art-manufacture, we shall, therefore, dwell upon each of those ingredients in succession, taking up the two former in the present article, and the latter on a subsequent occasion.

The wool of which the shawls of Cashmere are composed is the cotton-like down, or inner hair, of a species of goat which abounds in the vast plains of Thibet—a cold, dry table-land to the east of Cashmere. The wool which is manufactured in Cashmere into woven fabrics is of two kinds: *pashm shal*, or shawl-wool, the produce of the tame goat; and *asali tus*, or the fleece of the wild goat, the wild sheep, and other animals, including the *yak*, a species of ox, and even the dog of Thibet. Attempts have been often made to rival the shawls of Cashmere, but even when the genuine shawl-wool has been employed, these efforts have not succeeded. The most remarkable endeavours of this nature have been made in various districts of the continent of India, but with what success the following passage from Mr. M'Culloch will testify: — "It must be admitted," says he, "that shawls have nowhere been made that can come, as respects quality, into successful competition with those of Cashmere. *The manufacture has been established at Delhi and Lahore* for some years; but notwithstanding it is carried on by native Cashmerians, and although the material employed

* M'Culloch's "Dictionary of Commerce," article *Shawls;* Hamilton's "Description of Hindostan; Vigne's "Travels in Kashmir;" Moorcroft's "Travels in the Himalayan Provinces of Hindostan and the Punjab;" Thornton's "Gazetteer of the Countries adjacent to India;" Karl Freiherr Von Hugel, "Kaschmir und das Reich der Siek." 8°. Stuttgardt, 1840; "Dictionnaire Universel du Commerce," &c. Paris, 1851, (Articles "Chales et Laines"); "The Official Illustrated Catalogue," &c. &c.

be quite the same, the fabrics are said to want the fineness of those made in Cashmere, and to have a degenerated and coarse appearance. This superiority has been ascribed to some peculiar quality of the water in the valley of Cashmere; but it is most probably owing to a variety of circumstances, which, though each may appear of little importance, collectively give a character to the manufacture."

Napoleon imported goats from the East into France; but these were not, as has been stated, of the Thibet breed; being brought from Talish, on the western bank of the Caspian Sea. The Cashmerian goat has been bred in England by His Royal Highness Prince Albert (who exhibited specimens of the wool, and of fabrics made from it), and by Mr. Power, of Weald Hall, Essex; but there is reason to believe the real Thibet goat would in this climate yield but a comparatively small quantity of that peculiar down, or shawl-wool, which constitutes its natural provision against the intensely cold and piercing winds of its native region.

From the plains of Thibet the wool is conveyed to Rodokh (or Rudak), on the backs of sheep of a peculiarly large breed. Rodokh is the principal rendezvous of the wool-merchants, who convey the material from thence to Leh (or Le), the chief town of the province of Ladakh, where it is purchased by the merchants of Cashmere, and carried to the seat of the manufacture on the backs of men and horses. The value of the wool annually imported for shawls alone, is stated by Hügel at 34,000*l.* One goat produces two pounds of wool annually; and besides the distinctions of quality already mentioned, the material is sorted, according to the colour of the animal producing it, into white, and dark, or ash-coloured; the former for plain, and the latter for dyed fabrics. One-third of the whole is of the latter description, and whilst the white wool was worth at the time of Vigne's visit to Cashmere about 4*s.* a pound, the dark wool was only half that price.

The wool is first separated from the short hairs of the animal,—a process which greatly reduces its quantity. Vigne states that "one-fourth only of the quantity bought is fit for weaving." It is then cleaned by washing; in which operation rice-flour is used as an abstergent, instead of soap. The wool is then spun by the hands of women, whose toilsome occupation only enables them to earn a sum equal to 2*s.* 6*d.* a month. The yarn is next dyed; and in this part of the manufacture, which is preserved hereditarily in particular families, great ability is displayed. About forty different tints are generally used (although the dyers offer to supply no less than sixty-four); some of these are obtained by extracting the colours of European woollens. Thus, the ordinary baize of England supplies some of their finest greens, and also a light blue. The fine pale yellow colour of a new shawl is given after weaving, by exposing it to the fumes of sulphur. The yarn, when dyed, is dipped in rice-water, to strengthen it, and render it fit to sustain the rapid motion of the shuttle. The shawls are always woven in pairs, and the thread for a large pair weighs fifteen or twenty pounds. Hamilton states that when a merchant enters upon this trade, he engages several shops or looms in one spot, so as to be under his own inspection; sometimes he adopts the plan of giving out the thread to work-people, who carry on the manufacture at their own homes.

We gather from the report of the Sub-Committee appointed to investigate the subject of the varieties of Cashmere shawls, proper to be exhibited, some interesting particulars in relation to the ordinary designs for the finest kinds. It appears that they are regularly classified and priced; and that the *Doshallas*, or long shawls, which are invariably manufactured and sold in pairs, are divided into regular classes, such as the Khale Mitton, or plain-field shawls; the Poor Mitton, or full-flowered fields; and the Chaud Dar, &c., which are more irregular, and consist either of a moon or circle in the centre, four half-moons, green sprigs on a plain ground, a group of flowers at the corner, or any combination of these. The principal colours are white, black, crimson, scarlet, purple, blue, green, or yellow. Fine long shawls, with plain fields of handsome patterns, are procurable at about 1200 rupees per pair, and full-flowered at about 1500 rupees. It appears from Moorcroft's account, that the design is drawn in black and white only by a man called a "Nakash," or pattern-drawer, and is by him brought to the overseer of the works, who carefully studies and determines the various colours of every portion of it. Beginning at the foot of the pattern, he then calls out the colour and the number of threads to which it is to extend, that by which it is to be followed, and so on in succession, until the whole pattern has been described. From his dictation the particulars are written down in a kind of short-hand, and a copy of the document is given to the weavers.

Thus it is that preparation is made for the actual operations of manufacture, a portion of the subjects upon which we trust to be shortly enabled to enter.

M. DIGBY WYATT, DIREXT

J. A. VINTER, DEL ET LITH.

CUPID AND PANTHER, BY RIETSCHELL OF DRESDEN.

LONDON PRINTED AND PUBLISHED JANY 1ST 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XXIX.

CUPID AND PANTHER,

A BAS-RELIEF IN MARBLE BY RIETSCHEL OF DRESDEN.

The illustration of the old motto, "Amor vincit omnia," was a favourite subject among the artists of antiquity; and many a sculptured gem and faded wall-painting still bear testimony to the power of those emotions which made the traditional "King Cophetua wed the beggar-maid." As if, however, to prove that every "yea" must have its "nay," Rietschel, in the design we now engrave, has shown to what miserable straits the little God may be supposed to be occasionally reduced.

Pretty and trifling as may seem the fancy which is superficially expressed in this bas-relief, we cannot doubt, — knowing the spirituality of the artist's nature, and his attachment to Ludwig Tieck and Moritz Retsch,—that it was his intention to enforce a more pregnant moral.

In the poor unfortunate Cupid, who has allowed himself to be seduced to mount the beast he cannot manage, we may read a bitter satire on the miserable fate of those who excite passions which they cannot control, and attempt to conduct undertakings for which their nature incapacitates them; or, perhaps, we may fancy that the artist merely essayed to depict the torments of the lover, when borne away by imperious passion, and completely abandoned to the fierce and wild career on which the fever of his blood has urged him.

Irrespective, however, of its merit as a work of illustration, it is impossible to refrain from according to this production the highest possible praise for the freedom and excellence with which the composition has been wrought out. The terror and childish prostration of the Cupid, the lunging movement of the Panther, the texture of the flesh contrasted with the shaggy coat of the animal, and the free and vigorous spirit of the general execution, all bear testimony to the artistic skill displayed by this great master.

It is truly fortunate for Rietschel's English reputation, that the three works which he contributed to the Great Exhibition should differ so widely in character. In the beautiful subject of the "Christ-Engel" (Plate V.), we have ample evidence of his power of expressing seraphic grace and the beauty of repose. In his "Pieta," a far more severe style of composition and handling is adopted; and as an embodiment of that most difficult theme,—expressing the awful agony of a scene too painful to dwell upon with feelings other than of deep emotion,—it may be regarded as conveying more religious sentiment than any other modern representation of the same subject. In the "Cupid and Panther," the vivacity of imagination, and the ornamental and pleasing treatment of the subject, prove that Rietschel's sympathies with the lively and elegant department of his art are as strong as with its most serious forms.

In the notice appended to Plate V. we briefly enumerated the leading works in which the genius of this artist has been developed. Those only, however, who, besides those productions, have had an opportunity of inspecting his beautiful portrait-busts, his minor works in single figures and bas-reliefs, and the compositions which exist only in his drawings and models for every variety of work, can fully appreciate the extent and diversity of his talents.

It is gratifying to be enabled to state that Rietschel's two charming bas-reliefs have been retained in

this country; the "Christ-Engel" having been purchased by Mr. I. K. Brunel, and the "Cupid and Panther" by Lord Charles Townsend.

Although the number and importance of the works produced by our artist would warrant the supposition that he had devoted to the cultivation of his art more years than ordinarily fall to mortal lot, he is in fact still young. This circumstance renders it the more sad that the state of his health is such as to fill his friends with the liveliest apprehensions, and he has consequently been strongly urged to seek its restoration by a residence in Italy. Should it be decreed that his days are no longer to be spent in the practice of that elevated art of which he is already so great an ornament, there will be a mournful interest in the fact that his latest productions were contributed to the Great Exhibition.

F. SMALLFIELD DEL.

M. DIGBY WYATT, DIREXT.

F. BEDFORD, LITH.

BLACK LACE FLOUNCE, (NOTTINGHAM MANUFACTURE) BY GREASELY & HOPCROFT.

LONDON, PRINTED AND PUBLISHED JANY 15TH 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XXX.

BLACK LACE FLOUNCE,

BY GREASLEY AND HOPCROFT, OF NOTTINGHAM.

Among the numerous exquisite specimens of design, as applied to lace fabrics, which were collected in the Great Exhibition, there was scarcely one to be found in which simplicity and an appropriate treatment of form were so happily combined as in that we now engrave. Lace, as a material, is obviously best displayed when the openness of the ground permits the surface over which it is worn to be distinctly seen through the meshes, so as to assist in relieving or "throwing up" the flowers or ornaments worked in the net. Too frequently in designs, both for English and foreign production, this principle of contrast between the ground and the pattern, is overlooked. Scroll-work, shells, and every description of enrichment, are heaped together so as to completely cover the original transparent field; rendering the work unnecessarily full and *tourmenté*, and converting what should be the lightest and most ethereal of textile fabrics into an apparently heavy and cumbrous substance, which serves only to hide, instead of to decorate, the surface it covers.

Another defect in design which occasionally renders valueless some of those productions which, for extraordinary minuteness and patient industry, might rival the celebrated labours of Arachne, consists in the ambitious attempt to introduce direct imitation of objects unsuited to be reproduced by the technical processes of manufacture. Thus we have too often been called upon to sympathise with abortive attempts at portraiture, and at the uncomfortable delineation of landscapes by the contorted bobbins of the lace-maker. and the ambitious needle of the embroideress.

From such defects Messrs. Greasley and Hopcroft's flounce is entirely free; and it may be regarded as offering a pleasing illustration of the kind and amount of conventionality in ornament appropriate to the conditions and uses of the material in which it is executed.

Most of our readers are no doubt aware that English lace is of three kinds,—Pillow-lace, or entirely hand-worked; Bobbin-net, or machine-made lace; and Run-lace, which is a combination of machine and hand-work. The first we shall notice in illustration of one of the beautiful products of Honiton, in Devonshire, and the second, in a subsequent article on Nottingham ingenuity. As the object now engraved belongs to the third kind, we shall confine our remarks at present to "run-lace," and its fabrication, a branch of trade almost entirely carried on at Nottingham.

The ground of the article is machine-made, inasmuch as it consists generally of a piece of plain bobbin-net, with a regular mesh made—if white, of cotton thread; if black, of silk. The piece of net, unbleached or dyed, is passed through a machine known as the "gassing-machine," by means of which it is exposed while drawn along rapidly to the action of a great number of small gas-jets, the flame of which serves to singe off all loose filaments which would otherwise tend to make the net look coarse and indistinct. It is then strained down flat, and printed by means of engraved wood-blocks, with the outline of the object intended to be made, whether collar, cape, veil, berthe, &c., and with the general form of the pattern proposed to be embroidered, or "run in" upon it. This work, which involves, or should involve, a considerable amount of artistic ability, is generally sent out to be executed by a class of persons (distinct from the manufacturers)—a species of quasi-artists, whose studies are divided between the fine arts on the one hand, and the most

business-like attention to the fluctuations of fashion, which constitute what are known commercially as the "prevailing styles," on the other.

We now come to the actual handwork portion of the process, and feeling the excellence of the description of it given by Mr. George Dodd,* we transfer it to our pages. It is remarked that, "when the stamper has imprinted on the net the outlines of the device, a 'pattern-setter' decides on the manner in which the pattern shall be filled up. For instance, if a leaf form part of the pattern, the stamper only gives the outline of the leaf, and it rests with the pattern-setter to determine how the needle of the embroideress shall fill up the device." We must next transfer our attention to one of the humble homes of the numerous and lowly-paid 'lace-runners.' The term 'embroidery' does not seem to be much used in connexion with the Nottingham lace trade, most of those who work on net with the needle being termed 'lace-runners.' Each workwoman has a frame, on which the net is stretched out horizontally, at a height of about three feet from the ground. She sits on a stool or chair, places her left hand under the stretched net, to keep it in a right position for working, and with her right hand works the pattern with needle and thread in every part where the stamper has imprinted a device. The needle is inserted between and among the meshes of the net, and stitches of greater or less length taken, until there is a body of thread laid in sufficient to mark the device conspicuously. This working round of the outline is called 'running;' while the filling up of the interior parts is termed either 'fining' or 'open working,' according as the original meshes of the net are brought to a smaller or larger size by the action of the needle. How, by the work of the needle, the meshes of the net may be made larger or smaller will be easily comprehended by the one sex, and must be taken for granted by the other.

"The mode in which this embroidery business is transacted is often thus:—A person takes from a manufacturer as much work as twenty, or perhaps fifty, females can embroider, and she devotes as many rooms as her house can afford to the reception of the workers, who pay to her a trifling sum (out of their trifling earnings) for the use of the room. They all receive their work from the person who rents the house, who pays them for their labour, deducting a rent for the frame-room, and a further trifle for some other item. To eke out their earnings, the women in one room often have their meals in common, making up, for a few pence, a hash or stew sufficient to dine seven or eight. There they sit for twelve or fourteen hours a-day, with the head stooping over their work, plying the needle."

On leaving the hands of the lace-maker, any accidental tears or faults in the net are made good by an extremely skilful set of workwomen, whose needles imitate the most complicated meshes produced by the machine. The work is then cleaned, bleached, or dyed, and dressed, *i.e.* rubbed with a composition of gum, paste, &c., to give a certain amount of stiffness, varying according to the purposes of the object. Each article is then cut out of the piece of plain net, the cutter being guided by the outline marked by the stamper, and an edging sewn on to prevent the threads from unravelling. The articles are, lastly, examined, sorted, pressed, ticketed, and packed, and are finally consigned to the merchant's hands.

The veil engraved is a specimen of black silk run lace, manufactured in the manner above described.

"The Times" of Dec. 8, 1851, contains some remarks on the history and present state of that branch of trade, so pungent and pertinent, that we cannot conclude our notice better than by reproducing them, expressing at the same time our earnest hope that the hint they convey may not be lost upon the good citizens of Nottingham:—

"The new and large manufacture of black silk lace sprang into existence some four years ago, and it was thought had become a branch of trade. Those who first engaged in it produced the best class of goods possible, and by so doing beat the continental manufactures out of nearly every market, both for excellence and cheapness. This accomplished, a system of adulteration and depreciation commenced on the part of rival manufacturers at home, which has been carried to such extremities as seem calculated, if not abandoned, to annihilate the manufacture altogether. First, inferior silks were used, to enable them to undersell manufacturers of the legitimate article; and latterly they have actually been working the warp of fine cotton, and even some of the bobbins; deceiving purchasers by putting little more silk into the goods, than merely covering the thick threads which form the figure with that material. This method of adulteration has brought prices down from 1*s.* 6*d.* per yard of four inches wide to 4*d.*, and other widths in the same proportion. If this system be not discontinued, our manufactures will shortly grow into disrepute in all the best markets of the world. The plain net manufacturers adopt a wiser course, scarcely any instance of such disreputable competition and adulteration occurring among them."

* "The Textile Manufactures of Great Britain," by George Dodd, p. 224. London, 1851.

H. HUGFORD, DEL.

M. DIGBY WYATT, DIRECT.

MURAS LITH.

VASE IN CHINA FROM THE ROYAL MANUFACTORY AT SEVRES.

(VASE RIMINI.)

LONDON, PRINTED AND PUBLISHED JANY 15TH 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE XXXI.

VASE,

FROM THE ROYAL MANUFACTORY AT SÈVRES.

The general character and form of this object appear to have been derived by its skilful designer, M. Dieterle, from some of those beautiful Majolica vessels which, during the sixteenth century, ministered at once to ornament and utility, in containing the drugs dispensed at the pharmacies of Venice, Florence, Padua, &c. As we have seen in our notice of Mr. Minton's vase (Plate XI.), the Italian objects referred to were fabricated in a somewhat coarse earthenware *body*, for which, in the Sèvres manufactory, that exquisite composition, the precise admixture of which has long engrossed the attention of French chemists, has been substituted. The results of this substitution may be naturally inferred. The perfect purity and compactness of the *service*, as it is called, in the Sèvres manufacture, not only counteract the tendency to twist in firing which is manifested in earthenware, but afford a much more brilliant ground for subsequent decoration. The intense whiteness of the objects now produced at Sèvres, is so great as to reflect light through every colour applied upon them, and thus a clearness and transparency are given to the tints laid on, which far surpass any that it was in the power of the Italian painters to obtain on their comparatively dull material.

In the remarks which accompanied Plate XI. an attempt was made to trace the progress of Italian pottery to the end of the sixteenth century. Towards the middle of that century a series of experiments had been successfully carried out in France, through the activity and indomitable perseverance of the celebrated Bernard de Palissy,*—on the composition of earthenware; on the application of opaque coatings; on the varieties of transparent enamel colours proper for painting on china; and on the best methods of preparing vitreous glazes, with a view to protect the opaque, and enhance the brilliancy of the transparent colours. The labours of Bernard de Palissy, and Leonard de Limousin the great reviver of the processes of the ancient Limoges enamel, laid the foundation for that facility with which the earliest French painters on china enriched their works with the most varied colours.

In our notice of Plate XIV. we indicated the various steps by which the manufacture of soft porcelain, or *pâte-tendre*, was carried to its perfection; and we shall now, in a similar manner, endeavour to trace the progress of the *pâte-dure*, or hard porcelain.

The *body* of the Oriental china which, about the commencement of the sixteenth century, began to be imported into Europe by the Dutch and Portuguese, presented the perfection of *pâte-dure*, and many efforts were made to discover its ingredients. After considerable labour it was found to consist of a fusible clay, known in China as *kao-lin*, a substance which has preserved the same name in Europe; and of a material called *pe-tun-tsé*, which is decomposed feldspar. The glaze or covering known in China as *yen*, was compounded of a choice and finely-powdered feldspar, and a small quantity of *che-kao*, a species of gypsum, together with some other matters, but never with the addition of either lead or tin.†

* We can scarcely direct our readers to a more interesting piece of autobiography than that of this extraordinary individual; who has recorded in most graphic terms the intensity of his opinions on subjects of every description, and the remarkable acts to which his strong convictions impelled him. *Œuvres de Bernard de Palissy, publiées par Faujas de Saint-Fond, Paris*, 1777.

† Brongniart, "Traité des Arts Céramiques."

M. Labarte informs us,* that although at an early period the raw materials were imported from the East, they always arrived in a state of fine powder. Upon the composition of this powder some light was thrown by the information collected in China by the celebrated Jesuit, François Xavier d'Entrecolles.† It was, however, reserved for European chemists to recognise the materials and the proportions in which they were mingled; and, above all, the sources from which similar materials could be procured. Many *savans* attempted to resolve this problem; but it was only under the auspices of Frederick Augustus the First, Elector of Saxony, at the commencement of the eighteenth century, that the desired result was obtained. The celebrated Böttcher was born on the 4th of February, 1682, at Schlaiz, in Voigtland.‡ His earliest studies in chemistry were directed, as was usual at that period, to the mysterious refinements of the transmutation of metals, and the composition of elixirs; and the fame he had acquired at an early age for his knowledge on these subjects, caused him to be brought to Dresden, and placed, in association with the distinguished chemist Walter de Tschirnhaus, in the Royal Laboratory. Thus installed, Böttcher turned his attention to the production of porcelain; and, in 1708, he attained complete success in the fabrication of the celebrated red-ware known to collectors by the name of its inventor. This material is not strictly a porcelain, but rather an extremely perfect red earthenware. It was at this period that accident led to the discovery which had defied the labours of generations of students. Jean Schorr, a tradesman, in riding at Aue, near Schneeberg, remarked that his horse trod into a soft, white earth. Struck with its appearance, he reduced some of it to a powder, and successfully introduced it at Dresden as a substitute for the flour then in use for the immense *perruques* commonly worn. Böttcher's servant employed the new powder one day in dressing the wig of his master, who, remarking that it was unusually heavy, questioned his domestic as to the origin of the powder. Learning that it was an earth, he examined the material minutely, and to his great delight discovered that it was no other than the long-sought material, kaolin. Availing himself of this discovery, Böttcher produced, in 1709, a perfectly white and transparent porcelain, possessing all the characteristics of the Chinese. His success led to the formation of the celebrated establishment at Meissen, from which the principal Courts of Europe were long supplied with imitations of Oriental china. For a length of time every effort was made to keep the material and the processes secret; but, in spite of every vigilance, it gradually extended into the different countries of Europe. In 1720, Stöbzel, foreman of the works at Meissen, succeeded in reaching Vienna, and establishing in that town the celebrated manufactory which has ever since remained under Imperial patronage.

At this period, as we have shown in our notice of Plate XIV., the French chemists, aided by the important investigations of Réaumur, had arrived at a beautiful imitation of china, by means of the artificial *body* known as *pâte-tendre*. In 1761 the French Government made a contract with Pierre Antoine Hannong, of Strasburg, for the acquisition of a knowledge of the Saxon processes, but with little beneficial result to France, as the primary ingredients were wanting. In 1765, Guettard discovered a locality near Alençon, from which both kaolin and feldspar could be procured. From some imperfection, however, he was unable from these materials to fabricate a white porcelain; all the specimens of his execution being distinguished by a grey tint. Chance, however, coming again to the assistance of science, brought to light the source of an abundant supply of the greatest purity. Madame Darnét, the wife of a surgeon of Saint-Yreix, having remarked in a ravine in the neighbourhood of that town a peculiar white earth, fancied that it might supply the place of soap in washing. Her husband, who had probably heard of the demand for china-clay, took some small quantities of the earth to a druggist at Bordeaux, by whom they were forwarded to the celebrated chemist, Macquer, who immediately recognised in them the much-wished-for kaolin.

After having verified, in 1768, by a series of conclusive experiments, the importance of the supplies obtainable from Saint-Yreix, Macquer established the fabrication of hard porcelain at Sèvres, where it was soon carried on with great activity. From that period the manufacture of *porcelaine dure* and *porcelaine tendre* were conducted together in the royal establishment, until 1805, when the latter was entirely superseded.

In a subsequent notice we shall offer a few remarks on the recent history and productions of this celebrated manufactory.

* "Description des Objets d'Art qui composent la Collection Debruge Dumenil." Paris, 1847.

† "Treatise on the Origin, &c. of the Manufacture of Porcelain and Glass."—*Lardner's Cyclopædia*, vol. xxvi. p. 9.

‡ *Vide* Dr. Gustav Klemm, "Die Königlich Sachsische Porcellan und Gefasse-Samlung." Dresden.

POZZI. DEL.

M. DIGBY WYATT. DIREXT.

F. BEDFORD. LITH.

SPECIMEN OF INDIAN LAC WORK.

LONDON. PRINTED AND PUBLISHED JAN.Y 15TH 1852. BY DAY & SON LITHOGRAPHERS TO THE QUEEN.

PLATE XXXII.

INDIAN LAC-WORK.

In our notice of Plate II. we gave a short description of *lac*, and the various processes of its application to purposes of commerce, reserving for the present article a few observations on the knowledge of art displayed by the Oriental designers of objects in that material.

A pattern in which two colours only are employed to contrast with one another, affords a more ready illustration of the principle upon which such compositions should be based than one in which the combinations are complicated by the graduated intensity of several tints. It was for this reason that we preferred to illustrate the artistic principles applicable to our present subject by a simple object, such as that engraved in the accompanying Plate, rather than by the more complicated scales of form and colour displayed in the patterns given in Plate II.

In the box-top figured in our present illustration, even the uninitiated must appreciate the judgment with which the designer has contrived to balance the areas destined to be tinted with the different colours employed. Among the most remarkable peculiarities of Indian ornamentation, as applied to plane surfaces, are the flatness exhibited by the leaves, flowers, &c., of which it is composed, and the general appearance of equal surface which its various parts present. In too many patterns of European design the eye is drawn to one particular portion of an object which should retain the uniform aspect of a flat surface; and according to the amount or quality of the light or colour at that point, so does that portion of the surface appear either to advance towards or retire from the spectator. Thus, a shawl upon a lady's back may frequently appear to protrude or recede, in other parts than those which the form of its wearer may account for.

In Indian designs, the happy effect of flatness is obtained partly by the judicious balance of quantity between the area of the field and that of the pattern, and partly by a careful preservation of the same ratio in every portion over which the pattern may extend. So skilfully is this balance maintained, that we have remarked in many Indian patterns, that if the whole of the ground stand to the pattern in the ratio of three to one, one-sixteenth of the whole surface measured, in any part, will be found to contain three of ground to one of pattern. It is scarcely to be supposed, that the Indian artists are guided by laws so mechanical as those to which we allude, but rather that the refinement of taste, engendered by their traditional education, precludes their toleration of any departure from those harmonious proportions which the practice of ages has sanctioned as most pleasing and agreeable.

In the "Journal of Design" (vol. v. p. 92) Mr. Owen Jones has made some valuable remarks on the principles which should govern the distribution of plane surfaces in decoration. In defining some abstract principles, applicable in their fullest extent to the artistic productions contributed from India to the Great Exhibition, that gentleman observes, that "one guiding principle of the ornamentation of the Orientals appears to have been, that their decoration was always what may be called surface decoration. Their general guiding forms were first considered, and those forms decorated. Their flowers are not natural flowers; but conventionalized by the materials in which they worked. We do not see, as in European works, a highly-wrought imitation of a natural flower, with its light and shade, struggling to stand out from the surface on which it is worked, but a conventional representation, sufficiently near to suggest an image to the mind, without destroying the unity of the object it is intended to decorate. There is a total absence of shadow. The patterns of their shawls and carpets are harmonious and effective, from the proper distribution of form and colour, and do not

require to be heightened in effect by strong and positive oppositions. The great aim appears to be, that coloured objects, viewed at a distance, should present a neutralized bloom. Each step nearer exhibits fresh beauties; and a close inspection, the means whereby such effects are produced. In their diapers and scroll-work, one of the means by which this harmonizing effect is produced appears to be, that the ornament and the ground occupy equal areas. To obtain this effect requires no ordinary skill, and it can only be arrived at by highly-trained hands and minds."

In turning from the question of the artistic principles involved in its decoration, to the actual object before the reader, we may remark that the process of its fabrication is analogous to that usually adopted in China. Similar works, though of a somewhat coarser description, are common in various parts of the Indian peninsula; and the present specimen can scarcely be regarded as offering any distinctly local characteristics. The number of boxes and toys executed in this mode of workmanship in India is very great; and scarcely a traveller returns from that region to Europe without bringing back some evidence of the skill of its natives in the application of *lac* to every description of articles.

These are, perhaps, only exceeded in quantity and diversity by the productions of China. Many interesting illustrations of processes similar to those we have described in our account of Plate II. were comprised in Mr. Dunn's extraordinary collection of works of Chinese Art and Industry, exhibited at Hyde Park Corner in 1842. Amongst these were various *boxes* of various kinds,—viz.: to contain fruits, vegetables, cakes of ink, water-colours, sweetmeats, wedding presents of silk, &c. &c. There were also lacquered cases, containing smaller boxes for trinkets, lacquered fan-cases, red lacquered boxes for culinary purposes, others used in gaming, and for travelling purposes, chess-boards, snuff-bottles, and many other articles. In the interesting Catalogue of that collection by W. B. Langdon, the curator (8vo. 1842), the following note is appended to one of the principal objects in lacquered ware:

"The lacquered or japanned ware of China is well known. All substances that are dry and rigid, as woods, metals, and prepared paper, admit of being japanned. The fine varnish used for this purpose is obtained from a shrub called *Tseih-shoo* (*Rhus vernix*), from which it distils like gum. It is poisonous in a liquid state; and hence great caution is used, both by those who gather and those who work in it, to shield themselves from its noxious qualities. It is capable of receiving all colours, though black is the most common. More than fifty coats of varnish are sometimes put on."

Another article in the Chinese Collection was described as a "Superb Cabinet from Soo-chow, in the province of Fokeen, a locality famous for its manufacture of lacquered ware."

THE INDUSTRIAL ARTS

OF

THE NINETEENTH CENTURY.

A SERIES OF ILLUSTRATIONS

OF THE

CHOICEST SPECIMENS PRODUCED BY EVERY NATION

AT THE

GREAT EXHIBITION OF WORKS OF INDUSTRY, 1851.

DEDICATED, BY PERMISSION, TO HIS ROYAL HIGHNESS THE PRINCE ALBERT.

By M. DIGBY WYATT, Architect.

LONDON:

PUBLISHED BY DAY AND SON, LITHOGRAPHERS TO THE QUEEN.

MDCCCLI.

TO

HIS ROYAL HIGHNESS THE PRINCE ALBERT.

THE present Work aims at being a faithful record of the characteristics of those productions displayed at the Great Exhibition of 1851, which best illustrate the advanced condition of the Industrial Arts of the Nineteenth Century.

As such, it is most respectfully dedicated to Your Royal Highness, the illustrious patron of those arts, and the consistent friend of all engaged (however humbly) in their promotion,

BY YOUR ROYAL HIGHNESS'S

MOST OBEDIENT, HUMBLE SERVANT,

M. DIGBY WYATT.

77 Great Russell Street,
September 14th, 1851

PLATE XXXIII.

RICHARD CŒUR DE LION,

A STATUE DESIGNED FOR BRONZE, BY THE BARON MAROCHETTI.

WHENEVER popular judgment is concurrent, there is good ground for trusting to its correctness, whether the matter involved be a question of fact, of wisdom, or of taste. The universal admiration which was excited by this grand Equestrian Statue, alike in the mind of the connoisseur and in the senses of the most uncultivated who flocked to gaze upon the marvels of the Great Exhibition, may therefore be regarded as an unquestionable tribute to the power of the truly great artist. Few among the multitudes who looked with pleasure upon that work could at all appreciate the nature of the peculiar difficulties which its great scale presented. The knowledge of proportion and of effect which is absolutely requisite to be brought to bear upon a statue executed two or three times the size of life, and probably in a number of detached pieces, is not only far greater in amount than that which will suffice to reproduce nature on its ordinary scale, but is necessarily much more precise.

In consequence of the extreme difficulty of appreciating, in the limits of a studio, the general appearance of a great object, destined to be seen by the ever-varying light of day, much must be trusted to rule, and modelled in obedience to the prescriptions of perhaps erroneous, or at least prejudiced, experience. The obvious danger arising from this necessity is, that the work should be tamed down, in process of working together, into undue conventionality of style, and life and fire be extinguished beneath it. To recognise, then, in an heroic statue on such a scale as the Richard, all the truth and ease which might be rapidly dashed into form in a small clay sketch, is to confess the triumph of genius over mechanical difficulties, and to acknowledge the true prerogative of Art—to please by Art—and yet to show no Art.

The talent of the Baron Marochetti appears to have developed itself, or to have been developed by accidental circumstances in an especial degree in this department of the sculptor's art, owing to his having been called upon to devote himself sedulously to the study of those ingredients which are necessary to be combined to make up a grand equestrian statue. Within the last fifteen years the Baron has executed a considerable number of such works, and as much of his artistic life has been spent in their production we shall notice the principal, in the order in which they have been modelled.

About thirteen years ago, Charles Albert, king of Sardinia, desiring to raise a monument to the celebrated Emanuel Philibert, duke of Savoy, victor in the fields of St. Quentin and Gravelines, selected the Baron Marochetti as the fitting artist to carry his design into execution. He was justified in his choice, not only by the talent which the then youthful sculptor had displayed, but by the fact that, though born in France, his ancestors were Piedmontese. This statue, which is of colossal size, has been erected on the Piazza di San Carlo, at Turin, a situation worthy of so fine a work. Adopting the costume of the period, the sculptor has worked out, with extreme freedom and care, the details of the armour worn by the warrior. The action, both of the man and the horse, is in the highest degree spirited. The latter, yielding to the action of the curb, is restrained in the midst of violent effort: and his rider, apparently unmoved by the exertion of the animal, is inserting the point of his sword into its scabbard with the grace and dexterity of a finished cavalier. The head of the Duke beautifully conveys the character of his mind. Warlike

energy is associated with great refinement, and the expression is admirably suited to the statesman whose judicious policy gave peace to his country, after he had proved his prowess in the field.

Marochetti's success in the execution of this statue greatly enhanced his popularity, and led to his employment on some important works during the most prosperous days of the reign of Louis Philippe. The reputation he acquired in these commissions accounts for the fact that, in the year 1844, he was invited to undertake the execution in bronze of the colossal equestrian statue of the Duke of Wellington at Glasgow. In the performance of the task thus confided to him, he has been scarcely less successful than in the work above described. He has, however, given to both the horse and its rider a more tranquil action, harmonising with the quiet determination and advanced age of the great British commander. The bas-reliefs on the base of this monument, in the principal of which are embodied incidents from the battle of Waterloo and the campaign in Egypt, are among the most successful and spirited bas-reliefs ever executed in metal in this country.

On his return to Paris, about three years later, the Baron Marochetti received his most important commission from Louis Philippe, who directed him to prepare a statue of the Emperor Napoleon, to be placed upon the esplanade of the Hôtel des Invalides. Marochetti has moulded this subject three times the size of life, and invested it with a breadth and grandeur of style corresponding with its elevated character, and the scale on which it is designed. The severe lines formed by the Imperial robes, and the composed dignity of the figure, contrasted with the vigorous action of the horse, admirably suggest the colossal intellect which could sit unmoved while all was heaving in action beneath. This statue is thirty feet in height, from the head of the Emperor to the hoofs of the horse, and is of the same dimension in length. In February, 1848, the modelling of this figure was just completed, and the Baron was from day to day expecting instructions for casting it in bronze, but the disastrous revolution of that year interfered with the realisation of his hopes, and compelled him to seek tranquillity in this country.

With an energy undiminished by his reverses, Marochetti vigorously set to work in England, and commenced the splendid statue which forms the subject of our illustration. Certainly no living, and probably no ancient sculptor, has been enabled to carry out so important a series of large equestrian compositions.

In addition to the great works to which we have alluded, an infinity of groups, single figures, and busts, of smaller size but equal beauty, have issued from the *atelier* of the Baron; and these have been disseminated more particularly in France. One of his most important works in marble is a group representing "The Assumption of the Magdalen," who is borne upwards by a number of angels. This great composition forms one of the most striking ornaments of the Church of the Madeleine at Paris. In the same beautiful building he also executed two angels, standing at the sides of the principal altar, in the front of which he has also introduced a marble bas-relief of "The Last Supper." A figure of an angel, forming the principal pinnacle of the Church of St. Germain l'Auxerrois, is also a work of much spirit and grandeur; and among the portrait statues of heroic size which have added to the reputation of Marochetti, we may particularly mention the figures of Bèrtholet, the celebrated chemist of the Empire, and Latour d'Auvergne, the *premier grenadier* of France.

It is to be hoped that the genius of Marochetti will not be unappreciated in this country, and that the noble statue of "Richard Cœur de Lion" may not be suffered to remain in plaster, confined within the limits of the artist's studio.

PLATE 35

J. A. VINTER, DEL. ET LITH.

M. DIGBY WYATT, DIREXT.

RICHARD CŒUR-DE-LION, AN EQUESTRIAN STATUE BY THE BARON MAROCHETTI.

LONDON, PRINTED AND PUBLISHED FEBY 1ST 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE XXXIV.

ORNAMENTAL GUN-STAND FROM TUNIS.

The necessity for providing, in every hot country, such inclosures as maintain privacy, and at the same time ensure efficient ventilation, has conduced, more especially among the Oriental nations, to the perfection of a style of openwork design comparatively unknown to the inhabitants of colder climes. Such ingenious reticulations of line as spread over a plain surface, and admit of numerous perforations, which rather enhance than interfere with the symmetry of the entire composition, found especial favour among the faithful followers of the Prophet, and wherever their conquests have planted his standard this especial style of design is found to flourish in its highest perfection.

In India, in Spain, on the north-west coast of Africa, and throughout Persia and Turkey, both in stone, in wood, and in plaster, numerous external inclosures and internal partitions are to be met with, framed on the principle to which we have alluded. These screens, for so they may be fairly called, serve at once to effectually conceal from the gaze of the distant spectator the precise form of any dark-eyed beauty who may take delight in peeping through their apertures, and at the same time to enable the lady to examine clearly and at her ease whatever passing incidents may attract her attention and vary the monotony of the customary hareem life.

It is, however, in Cairo, above all other localities, that this style of inclosure has been most lavishly indulged in. Perforated stone and wood-work are there to be met with as the general basis of the architectural decorations of the most ancient mosques as well as of the most modern mansions. The overhanging galleries, which tend to still further diminish the width of the already narrow streets, consist of framing of wooden quarters, heads, and sills, so arranged as to leave openings which are almost invariably filled in with wooden lattice-work. The panels which are nearest the ground are generally closed, and the pattern as it rises increases in openness. Above the level of the head the air is allowed to enter as freely as possible, and thus, while the occupants of the apartments are hidden, light and air are permitted to enter.

The above description of inclosure is, in proportion to the relative size of the two cities, scarcely less prevalent at Tunis than at Cairo; and in the open-work filling-in of the various panels an almost equal amount of ingenuity is displayed. In Plate XV., an interesting illustration was given of the mode in which plaster is frequently perforated to form a screen, and in the present plate we offer a specimen in wood of equal beauty, exhibiting many of the most commonly-occurring patterns in the artistic and lace-like joinery of the Tunisians. Although in the object engraved, which serves merely as a species of ornament across which guns and other arms are supported by metal brackets fixed on each side of it, the interstices are backed up with coloured foil and with looking-glass, and by imagining that back-ground removed, we may form a notion of the extreme elaboration to which the ordinary wood-work, framed on the perforated principle, is carried. One of the most ingenious modes by which economy in the formation, and strength in the construction of the lighter varieties of wooden screen-work are frequently insured, is by stringing alternately a number of wooden beads and rolls upon a first series of iron rods, which are laid parallel to one another. The beads are also pierced in a direction contrary to that by which they are strung to the first series of iron rods, and a second series of iron rods are passed through them, as well as through rolls, which serve to separate the two crossing lines of

the iron rods. The effect produced is that of a net-work of wooden rolls, the intersecting points of which are marked in all cases by beads. The admirable effect in interior decoration produced by this and other scarcely less ingenious modes of arranging wooden lattice-work, was agreeably shown in the beautiful picture representing the interior of an apartment in an hareem, which was exhibited by Mr. F. Lewis at the Gallery of the Society of Painters in Water-Colours of London, in the year 1849. The flying lights and charming chequered effects produced by such perforations, and the amount of clearness with which external objects may be seen through them, was defined with a care and certainty of execution which offered the best possible guarantee for accuracy.

Mr. Drummond Hay, who may fairly boast of having been one of the very few Europeans who have ever been admitted within the jealous precincts of the hareem, has fortunately recorded his impressions of the interior of such a *locale* as pleasingly with his pen as Mr. Lewis has with his pencil. The graphic language of his description conjures up for the imagination a scene in which the subject of our present illustration,—the beautiful doors which were executed in a similar style,—the perforated plaster-work which we engraved in Plate XV., and many of the other novel and exquisite objects, which made the Tunisian exhibition so universally interesting, are vividly recalled to the memory. Mr. Hay* observes that "the habitation of the favourite consisted of a court open to the sky, with a room on each side; a fountain played in the centre, and in one quarter there was a vapour-bath. The floor and sides of the court were prettily laid in coloured tiles, bordered with precepts from the Koran. The *folding-doors* which opened into the principal dormitory were beautifully carved in intricate geometrical figures, and the walls were richly decorated in arabesque stucco-work; fine velvet couches and cushions of embroidered leather were ranged around the room; and opposite the door, on an *elaborately painted rack*, hung a fine Algerine gun, the barrel of which was curiously damascened with gold, and the stock inlaid with coral and silver. Below it was suspended a clumsy Moorish sword in a scabbard of gold and velvet." The ceiling was adorned with minute mouldings, richly painted and gilded, and of the same intricate devices as are yet to be seen in the Alhambra of the Caliphat of Grenada. At one end of the room stood the *trousseau* box of a bride, made of the famous pine of the Moorish Highlands called l'Aris; it was elegantly carved in Saracenic fashion, and from the fine perfume of the timber must, probably, have been well adapted for the preservation of apparel. On this box were placed an eight-stringed lute and the noisy *tomtom*. "The only *apertures* for light and air to these apartments when the doors are shut are worked *in plaster*, seeming almost as delicate as filigree; they fill several niches, in the form of what we call 'Gothic windows,' and of these there were three or four over each doorway: there was, however, one small chamber in the second story, out of harm's way, which had two tolerably-sized windows, closely latticed, however, whence the prisoned inmates of the hareem might unseen feast their eyes on a valley of orange and citron plantations which border a serpentine stream named Boosafa,—the Father of Clearness."

* "Western Barbary, by John Drummond Hay, Esq." London, 1844.

M. DIGBY WYATT DIREXT

F. BEDFORD LITH.

J. SLIEGH, DEL.

ORNAMENTAL GUN STAND FROM TUNIS

LONDON PRINTED AND PUBLISHED FEB.1ST 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE XXXV.

CENTRE-PIECE IN SILVER,

BY WAGNER OF BERLIN.

THIS beautiful object, which was exhibited by the firm of John Wagner and Son, Jewellers and Silversmiths for several generations to his Majesty the King of Prussia, was executed by Albert Wagner, son of the present head of the above firm. This young man, who at the present time is no more than twenty-five years of age, was educated at the Royal Academy of Arts at Berlin, his native place, and has worked as a practical silversmith for only four years, having in that short period acquired a dexterity of manipulation rarely to be met with in workmen of much longer standing. He received honorary distinction from the Academy of Berlin in the year 1851, and he has been also rewarded with the Council medal of the Great Exhibition for the work under consideration,—his first really important undertaking. In it the artist has attempted to portray the progress of man's endeavours to rise, by the subjection of material nature, to a final triumph over the powers of Evil. The rude conflict with Nature, to force her contribution of supplies for physical necessities, is represented in the lower portion of the composition; and, rising upwards, the gradual contest with all that is sensual and degrading, and the ultimate assertion of the supremacy of the Ideal. At the base are seated representatives of the Nomadic races, herding with the brutes, surrounded by the animal life on which they preyed, and grouped around the trunk of an oak, which typifies the primæval forest life, and suggests the material of the Ark, by means of which man first rode triumphant on the waters,—and of the primitive plough, by which the earth was made to yield her increase. Around this oak three female figures of Agriculture, Horticulture, and Vine-culture are grouped, representing the successive steps in advance of people having fixed places of abode. The vine was selected as emblematical of the most spiritual of these stages, when, the commoner wants being supplied, man seeks a joy and gladness beyond, leading to the developement of the industrial arts and sciences. This foreshadowed progress is expressed in the reliefs showing human beings engaged in the occupations of civilised life. These reliefs form a frieze around the bowl of the vase; and on its margin the efforts of man are crowned by evergreens—the ivy and the laurel. Above all, springing from a palm of Victory, soars a Genius, grasping the torch of holy fire, and radiant with the triumph of mind over matter. It is impossible to refrain from admiring this hymn of life, the passing scenes of which are apprehended by a poet's mind, and realised by an artist's hand.

The vase weighs altogether ninety pounds, and its value is 1800*l.* The detached figures—which were modelled by the first artists in Berlin from drawings by Mr. Wagner—are cast, but the reliefs round the bowl are beaten up; and the whole of the chasing and finishing was executed by that gentleman, who devoted to the task no less than eight months' incessant labour.

In a communication with which we have been favoured by Mr. Wagner, he urges the motives which induced him to oxidise the metal, and thus give his centrepiece the appearance of old work; and, as an ingenious exposition of the arguments which may be urged generally in favour of such a mode of treatment, we gladly give a free translation of them to our readers. Mr. Wagner remarks, that "Silver, although very ductile to work, is nevertheless disadvantageous to any artistic composition, from its grey and polished appearance,

possessing neither the warm, solid colour of bronze, nor the transparency of marble. Whether polished or white, silver shows cold and false reflected lights, where in other metals there would be unbroken shadows. The oxidising process gives to the hollows their proper amount of shade; and in order to heighten this effect the whole of the work is covered with slight indentations, made with a smooth chasing-tool. By this means an effort has been made to represent in the figures the texture of the flesh, and in the vegetable productions their freshness and moisture. This is different from the usual mode of treatment, in which figures and ornament are covered with an unmeaning and monotonous granulation. This kind of texture is certainly not true to nature, as but few animals, and only the underside of the leaves of some plants, present this rough appearance, but, on the contrary, show pores and impressed lines." Mr. Wagner offers the above explanation of this peculiar mode of treatment, as he conceived his intention to have been somewhat misapprehended, not only by the general public, but by many members of his own profession.

Our young artist, who, as we have stated, comes of a line of celebrated goldsmiths, although supporting an independent establishment, has in this work laboured for his father, Mr. J. Wagner, the present conductor of the manufactory. The latter gentleman succeeded his father in the *atelier* from which many of the most important works which have for many years been executed in Germany have proceeded. Amongst these may be mentioned the reproduction of the celebrated Lanti vase, now in the possession of the King of Prussia, and the wedding outfit of the Queen of Bavaria, both in silver. Much charming jewellery has also been executed for the Countess Redern in Berlin, and the Princess Witgenstein of St. Petersburg.

The name of Wagner is celebrated in France, through the exertions of M. Carl Wagner (brother to M. John, and, consequently, uncle to M. Albert Wagner); but as we shall have occasion to allude to his career in noticing the productions of his successors in the firm he established at Paris, we shall at present confine our remarks to an intimation of the fact of his relationship to the great Berlin family of art workmen.

Prussia is to be regarded as especially fortunate in preserving to modern times the traditions of those old masters whose fame and whose works spread from Germany over the whole continent of Europe; and as we shall hope on a future occasion to refer to them, we shall notice only a few of those fellow-labourers in the same line with the Wagners, who now maintain the reputation of Prussian workmanship in the precious metals. Among them must be especially mentioned Hossauer of Berlin, by whom the shield, designed by Cornelius, modelled by Fischer, and now in the possession of the Prince of Wales, was put together. He was at first only brought up as a tin-worker, but, turning his attention to the fabrication of objects in the precious metals, he succeeded in engrafting on that business many of the processes made use of in his original avocation, and thus he has taught the goldsmiths the art of stamping in thin sheets, with steel dies, galvanizing, gadrooning, and the use of engraved rollers. During Schinkel's lifetime he was assisted with drawings by that great artist, by means of which he was enabled to produce some first-rate works; more recently, his great commercial ability has been developed in connexion with the manufacture of plated goods.

George Vitto of Berlin, a favourite pupil of M. C. Wagner, is celebrated for his *repoussé* work, and for his preservation of much of his great master's dexterity.

The manufactories of jewellery at Hanau, Stuttgart, and Pforrheim, continually bring into the market much good work, the forms of their objects and the perfection of their enamels being particularly carefully attended to. The productions of Weisshaupt, Horst, Daines, Bakes, and others, are considered to evidence both much skill, and not a little good taste.

M. DIGBY WYATT, DIRECT.

F. BEDFORD, LITH.

J. A. VINTER, DEL.

CENTRE PIECE IN SILVER, BY WAGNER OF BERLIN.

LONDON, PRINTED AND PUBLISHED FEBY 1ST 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XXXVI.

EMBROIDERED BOOT-FRONT,

EXHIBITED BY HIS HIGHNESS MEER ALI MOORAD OF SCINDE.

From few districts of India was a more satisfactory collection of specimens of national produce contributed to the Great Exhibition than from Scinde. The liberality and exertion with which his Highness Meer Ali Moorad made arrangements for the collection of such a series of objects as should completely illustrate the costume, habits, and leading manufactures of the country, were especially to be commended.

It appears probable, however, in spite of the beauty of many articles thus contributed, that the trade of Scinde is, as compared with that of many other districts of the Peninsula, in no very favourable condition. Mr. Thornton, in his "Gazetteer of the Countries adjacent to India on the North-West," presents an anything but flattering picture of the manufacturing capabilities of Scinde. He remarks, "that the state of manufacturing industry is generally rude, and few articles are produced suited for exportation." Among the branches of industry which have been pursued with most success in various districts, he especially notices the government establishment for the formation of weapons at Hyderabad. He remarks, "that in that city the fabrication of swords, spears, fire-arms, and other arms, offensive and defensive, has been greatly encouraged by the Ameers; and in consequence is carried to a degree of perfection surprising among a people in general so unskilled." Weaving and embroidery are also successfully conducted in the same locality; and it is most probable that the object engraved is a specimen of the ability of those engaged in the latter occupation in that city. Of the other manufactures more especially involved in the production of this object we gather, that "Tanning is successfully carried on, especially at Larkhana, where excellent shoes, sword-belts, and leather water-bags, are made. The bark used is generally that of the Acacia. Silk goods are fabricated at Tatta, Roree, Kyerpoor, and Shikarpoor, the raw material being principally obtained from Persia and Central Asia. Tatta also manufactures *loongees*, or rich narrow cloths of silk and cotton, sometimes intermixed with golden thread, and embroidered."

It is but just to observe, that the political constitution of Scinde and its frequent internal discords have operated most unfavourably upon the developement of its natural resources. Tradition tells of its wealth and glory previous to its invasion by the Persians in the sixth century, and of its subsequent struggles with successive Kaliphs. From that period to the present it has been bandied from conqueror to conqueror, its commerce never having been allowed the seasons of peace requisite for the developement of national prosperity. Under the comparatively tranquil, though feeble, rule of its later possessors, the Ameers of the Talpoor dynasty of Beloochees, it in some degree revived; but it is to be feared that the misfortunes necessarily brought upon it during the late war will long paralyse the efforts of such of its population as might, under more favourable circumstances, have been capable of great things.

In Mr. James Burnes' interesting Narrative of his visit to the Court of Scinde, published at Bombay in 1829, a very graphic account will be found of the state and pomp with which the Ameers conducted their durbars, or grand audiences, together with sundry particulars of the ordinary costume, to which we may suppose the magnificent boots, from one of which the pattern engraved was taken, to have been an adjunct of extraordinary splendour.

EMBROIDERED BOOT-FRONT.

This specimen of embroidery affords a charming example of the beautiful combination of colour for which the Oriental nations are so eminently distinguished, and on which we shall proceed to offer a few remarks in continuation of those given in our notice of Plate XXXII.

Colours, as correctly made use of, should vary in combination with every variety of surface to which they may be applied; and it is the province of the decorator, by taking advantage of certain properties inherent in each tint, to enhance the effects aimed at by the designer who prescribes the conditions of form. The three primary tints affect the apparent relative proximity of surfaces to the eye in three different ways. Yellow advancing, blue receding, and red maintaining an intermediate position; secondaries and tertiaries advancing or receding in proportion to the predominance of one or other of the primaries.

The mode of application derivable from these peculiar properties is easily illustrated, by imagining a plane surface, in which a number of regular equidistant indentations are made, and to which a number of fillets are attached, passing between the indentations. The simplest proper mode of colouring such an object would obviously be to tint as much of the original surface as was left, red; to tint the sunk faces, blue; to tint the projecting fillets, yellow, or to gild them, and to leave the edges at right angles to the surfaces, white, so as to interpose a neutral between every colour, preventing the confusing effect of their otherwise apparent blending. If the relative areas of the three varieties of surface thus coloured stand to one another in the proportion of sunk face 8, projecting face 5, and original surface 3, then the whole object will keep its distance; if, however, any one be increased or diminished, the whole object will appear to approach or recede *pari passu* with the altered ratios. Centuries of patient experiment have educated the Indian, as they did the Persian and Moorish eye, to scales of area, by the invariable preservation of which a pattern set out and coloured on the mosaic principle, can be applied to a plane surface, and no part of that surface shall appear, at a little distance, to advance before, or recede from, the general plane of the surface to which the decoration is applied. One great condition in the treatment of colour as of form being, that the proportions of the subdivisions of every part stand in the same ratio to the original subdivision of the whole area to be decorated. If any one portion differs in that respect it is certain to make a blot, or, as the French say, *de faire trou*, in the composition, destroying its harmony and integrity.

It is by an intuitive recognition of these and other simple general principles, that the Oriental nations have been enabled to adjust their arrangements of colour with such exquisite precision, giving apparent salience to every projecting form, and flatness to every plane surface, and contrasting the two in obedience to the great law of "simultaneous contrast." It is by such a mode of treatment, whether applied to architectural or sculpturesque form, to wall-painting, or printed or woven fabrics, that subdued effect is allied with the utmost richness and nobility of decoration.

H. DEL. H. MOTTEL DEL.

M. DIG. BY WYATT, DYNEVOR

EMBROIDERED BOOT FRONT

(SCINDIAN MANUFACTURE)

FROM HIS HIGHNESS MEER ALI MOORAD

LONDON PRINTED AND PUBLISHED FEB 1st 1852 BY DAY & SON LITHOGRAPHERS TO THE QUEEN.

PLATE XXXVII.

THE FIRST STEP,

A STATUE IN MARBLE, BY PIETRO MAGNI OF MILAN.

The artist by whom this pleasing group has been executed is still quite young; and, if we are rightly informed, this may almost be looked upon as in every respect his "First Step." The popularity obtained by Magni through his contribution of this work to the Academy of Fine Arts at Milan, has, we believe, procured him many commissions, and there is every reason to hope that his future career may fulfil the promise held out by this his first important exhibited work.

Among the beautiful objects contributed to the Great Exhibition by the sculptors of Milan, it would have been possible to have selected many of greater academic correctness, and treading with a more recent footstep in the traditions of the antique. From the fine works of Fraccaroli, whose manner was strongly suggestive of that of Canova; of Strazza, whose "Ishmael fainting with Hunger" was a work of very great power; of Gaetano Motelli, whose group of "Paolo and Francesca da Rimini" evinced a high aim and poetic imagination; or of Raffaelle Monti, whose "Eve after the Fall," and other statues, displayed a thorough acquaintance with his art and a great mastery over the technical difficulties of the material,—specimens might have been chosen possessing even greater merit than that which forms the subject of our present Plate. We have, however, preferred to engrave Magni's group as being probably the most important work in *Picturesque* Sculpture in the whole Exhibition.

There is no class of objects more difficult to redeem from vulgarity than that in which every-day costume and incident are depicted on a scale approaching that of life. The directness of the imitation leads the spectator to demand an almost greater power of reproducing nature than can possibly be accordant with the conditions of the sculptor's art or the nature of the material in which he works. The demand for colour to perfect the resemblance becomes almost as imperative as the supply of that demand would inevitably prove painful. Thus subjects of a picturesque character, unless treated with very remarkable skill, almost necessarily require to be rendered on a scale considerably smaller than life. The difference of dimension at once precludes the idea that the work is merely a transcript of nature; the mind recognises the conventionalities peculiar to the art, and makes allowance for the necessary departure from nature in the details. Thus a refined carrying out of the minutiæ of modern costume becomes perfectly agreeable in a statuette; and thus the application of colour, which would be intolerable in a life-sized figure, serves to confer an additional charm on the pleasing little groups of shepherds and shepherdesses, fine ladies and fine gentlemen, which constitute the ordinary subjects of old French and Dresden china. It is scarcely less painful to meet with a subject of every-day life—one in which the eye instantly detects that the marble mantle or shoe by no means carries out the idea of cloth or leather—represented to the full scale of nature, than it is to see an ideal work, portraying the grand emotions of a god-like energy, reduced to the usual limits of works in Parian or *biscuit*.

As every class of material involves on the part of the artist a mode of treatment consonant with its conditions of plasticity, so every variation of scale to a certain extent requires a variety of conventionality. The breadth and massive modelling of drapery which strike us as noble in a statue of heroic size, would

appear coarse and clumsy in one considerably reduced in dimensions; and the exquisite finish of a lace-ruff or an embroidered garment which we admire in silver in a plateau, could not but be regarded as frivolous in any bronze of a monumental character.

The late Mr. Wyatt of Rome, whose skill in apportioning the exact amount of finish he bestowed on every part of his statues to the material of which it was intended to convey an idea was truly remarkable, was accustomed to acknowledge gratefully the assistance he had received in theory from the interesting work of Quatremére de Quincy on "Imitation in the Fine Arts." By a careful study of the general principles laid down in that excellent work, of those which the critical acumen of Visconti and Winckelmann has derived from the antique, and of those which Sir Charles Eastlake has so admirably expressed in his "Contributions to the Literature of the Fine Arts," a just scale may be established in the artist's mind of the proprieties and limitations under which contemporary costume and the most ordinary actions may be rendered without exciting any discordant emotions.

It is by a judicious attention to such principles, that Pietro Magni has been enabled to enlist our sympathies for the graceful and natural incident he has represented, without allowing either an undue obtrusion of manual dexterity or a slothful coarseness of execution to disturb the truthfulness with which the idea of maternal affection and youthful confidence has been represented.

M. DIGBY WYATT, DIREXT

J. A. VINTER, DEL. ET LITH.

THE "FIRST STEP," A STATUE IN MARBLE BY PIETRO MAGNI OF MILAN.

LONDON, PRINTED AND PUBLISHED FEBY 15TH 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XXXVIII.

A GROUP OF GLASS,

BY COUNT HARRACH OF BOHEMIA.

THE process by means of which objects similar to those we have engraved in the present Plate are formed is, to glaze over a vessel of one coloured glass a thin coating of another. The engraver then cuts away the outer surface in parts, so as to exhibit the desired pattern. This method is the same as that which was followed by the ancients, and may be seen in the Portland Vase, as well as in numerous beautiful fragments, many of which, of the most interesting description, are still preserved in the Museum of the Studii at Naples.

In modern times great excellence has been attained in this manufacture in Bohemia, particularly in the establishment of Count Harrach, at Neuwelt, where, in the year 1844, more than 300 workmen were constantly employed in all the different departments. These men are all natives of the place, who have been educated and gradually led on to their present skill by the superintendents of the manufactory. Further efforts have been made of late years with the same object by establishing a drawing-school for the workmen, the favourable results of which are already visible in the greater taste shown in the improved forms and design of the objects produced. The liberal proprietor of the establishment has also encouraged the labours of his men by providing a fund for the superannuated, as well as for the widows and orphans. The quartz used in the manufacture at these glass-works is derived from the neighbourhood of Stepanitz, about ten miles distant from Neuwelt. The sand used in the furnace is obtained from Friedstein, and the fire-clay from Collin. The manufactory has two melting-furnaces for preparing the raw material, besides all the necessary ovens and furnaces for annealing, and for the delicate processes of the manufacture. The machinery employed is worked by water. Besides the number of hands engaged in the establishment, a good deal of the cutting and polishing is done in private shops.

The manufactory of Count Harrach produces almost every variety of object now made in glass; and whilst it exhibits great perfection in all the various departments of melting processes, in colour, in cutting, and in polishing, it is particularly remarkable for the execution of cameos and intaglios in glass, which are afterwards inserted in vases, &c. This establishment has also obtained considerable celebrity for its light yellow and cream-coloured glass.

Bohemia is not the only district of Germany celebrated for the production of ornamental glass. Silesia and Bavaria share to an almost equal extent in the reputation which, in that department of art, has been gained by Bohemia. The products of Silesia were represented in the Great Exhibition by the works of Count Schaffgotsch, of Schreiberschaw; and those of Bavaria, by the Government glass-works, at Theresienthal. In the last-named establishment the forms of the objects produced are frequently of great beauty, and the modern artists of Munich have contributed designs both for their general form and decoration.

The celebrity of Germany for the production of ornamental glass for drinking-vessels and vases is of considerable antiquity, and many specimens are preserved in the Royal Collection of Arts at Berlin by which the progress of the manufacture may be satisfactorily traced. In the interesting Catalogue of that Museum,

by Dr. Franz Kugler,* we find some remarks on the successive steps by which the art has reached its present state of perfection. The author divides the series of specimens, which were for the most part executed in the seventeenth century, into two distinct classes. The first of these, which was introduced at the commencement and continued till the termination of that epoch, consists generally of long glass cylinders—some of even colossal dimensions—which are painted in enamel colours, with a remarkably free handling. The decorations of these monster glasses usually consist of armorial bearings, and occasionally of figures, the outlines being indicated by sharp, dark lines. The vessels of the second of these classes appear to have been produced only in the latter half of the seventeenth century. While the form of the glasses remains much the same in the cylinder or upper part, the lower portion is quite different. Instead of the long and spreading foot common in the goblets of the first style, those of the second are supported on three little glass balls. The paintings are more cleverly and tastefully finished; a very slight portion of colour only is introduced, and the principal part of the pattern is touched with an agreeable dark brown sepia tint, occasionally heightened with black. The most excellent artist in this branch of design was the celebrated Johann Schafer, of Nuremberg, who died in 1670. A series of admirably finished glasses executed by him is preserved in the Museum at Berlin. Three of these are inscribed with the painter's name. On one of them he has executed a landscape and a large coat-of-arms; on another, a tournament of knights in antique costume; and a third, which is painted in one colour only, gives a representation, in excellent drawing, of "Daniel in the Lions' Den." Johann Keyle and Hermann Benchert are also names which appear on similar glasses, executed respectively in 1675 and 1677. There can be no doubt that this style of ornament was adopted in imitation of the objects which were supplied from the manufactories at Venice to all parts of Europe, and which formed a considerable branch of commerce in the latter part of the sixteenth century.

About the year 1700 this method of painting on glass was abandoned, and in the places where it had been carried to perfection a system of ornamenting glass by cutting was introduced. This style was an imitation of the works in crystal and other materials, which, through the skill of Valerio Vincentini, had been added to the ducal collection of gems at Florence. These old cut-glasses are decorated with mythological figures, genii bearing fruit, and hunting and hawking scenes. Few of them exhibit much artistic ability, but they are all laborious and skilful specimens of handicraft. As a variety of this style may be mentioned the beautiful ruby glasses which were produced under the direction and through the skill of the celebrated chemist, Kunkel, at Potsdam.

The art of glass-cutting which was thus carried to perfection in Germany, has maintained itself in that country with undiminished success to the present time.

* "Beschreibung der in der Konigl. Kunstkammer zu Berlin, vor Landenen Kunstsammlung," 8vo. 1838.

H.N. HUMPHREYS. DEL.

M. DIGBY WYATT DIREXT.

F. BEDFORD, LITH.

GROUP OF GLASS, BY COUNT HARRACH OF BOHEMIA

LONDON, PRINTED AND PUBLISHED FEBY 15TH 1852 BY DAY & SON, LITHOGRAPHERS, TO THE QUEEN.

PLATE XXXIX.

FOUNTAIN IN IRON,

BY ANDRÉ OF PARIS.

This elegant object formed a conspicuous ornament in the last French Exposition, and attracted no less admiration in the Great Exhibition of all Nations. To both of these collections M. André contributed also many other productions, remarkable at once for good design, excellent modelling, and singularly clean casting.

Fortunately, the Reports on the successive Exhibitions of French Industry have preserved an interesting series of facts in relation to those who took part in them; and it is from that of the year 1844 that we have gleaned many of the following particulars of the career of this highly-successful manufacturer.

M. André's progress may be divided into two distinct periods. He commenced business as contractor for the supply of pipes to the town of Paris. Possessing no establishments of his own, he procured the execution of them by working sub-contractors in the furnaces of Champagne. Although at that time unacquainted with the details of the founders' art, he was enabled, by the exercise of activity and intelligence, to introduce the best system of moulding, which, besides ensuring perfect execution, led to great economy of production. M. André was thus enabled to effect a reduction of price, which compelled his competitors to adopt his improved system. Thus, by his example, a remarkable service was rendered to foundries which had previously possessed only imperfect and costly processes. A still greater benefit was conferred on purchasers, since it enabled them to procure finely-moulded iron castings on terms far lower than those to which they had been previously accustomed.

Subsequently, in 1835, M. André established his extensive iron-works in the Val d'Osne. He has there displayed all the resources of his industrial capacity, and his foundry has acquired very great reputation; more especially since the year 1841. Undeterred by any consideration of expense, M. André introduced into his works every improvement of which the value had been tested by experience. He set the example in Champagne of economising heat, which would otherwise have been lost, and of which he availed himself to procure a supply of motive power, to heat air, and to dry his moulds; and he may indeed be considered as occupying the first rank among the iron-founders of Champagne.

When M. André began to produce fancy castings, balcony railings cost, at Paris, one franc the kilogramme; and pipes, forty-five centimes. In 1844 the former had fallen to forty or fifty centimes, and the latter to twenty-six or twenty-seven; a result which is mainly to be ascribed to his exertions. It is frequently the case, in extending a market and reducing the price of a commodity, that the increased consumption leads to a deterioration of the article produced; but it has not been so with the works of M. André. By allying himself to the most skilful designers and the best modellers of the French metropolis, he has evinced, in the prosperity of his career, how valuable good taste may become as a commercial commodity. Fully appreciating the advantages of education, he has attached to his establishment in the Val d'Osne a gratuitous school, in which he provides the best instruction for his apprentices; and a savings'-bank and benefit society also form part of his establishment. Upwards of two hundred workmen are constantly employed in his *atelier*, and in busy times his manufactory may be regarded as giving employment to at least double that number.

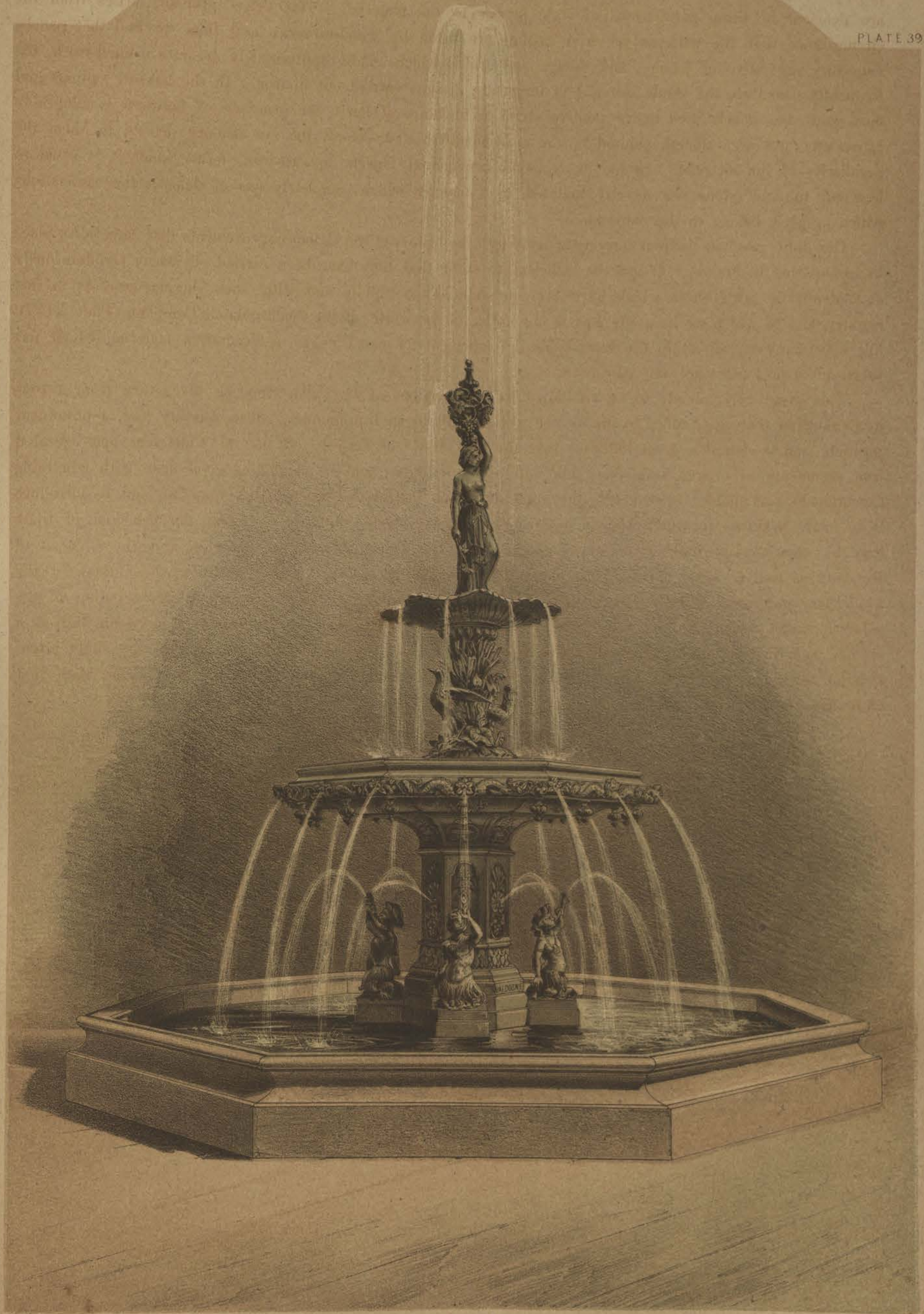
The productions of M. André obtained for him a prize medal in silver in the Parisian Exhibition of 1839,

and a gold medal in that of 1844; whilst, in the Exhibition of 1849, he received a confirmation of his previous honours. He has also been awarded a Council medal by the Jurors of the Great Exhibition of 1851.

Whilst there is much that is highly creditable in the design and execution of the fountain now engraved, it may still be remarked that, in common with most other works in metal of the present day, its ornaments are deficient in those peculiarities of style proper to the material. This defect probably arises from the circumstance that the patterns for iron casting are made by wood-carvers; and thus we find that panels, eminently suggestive of joinery, and foliage and fruits, which might appropriately decorate cabinet-work, too frequently constitute the staple material of important designs carried out in iron. In the balcony railings and open-work door-panels used in the modern street architecture of Paris, the principle of lightness is admirably expressed; and even though painted in the most manifest stone-colour, the eye at once detects in them the peculiarity of the material. In too many larger ornamental objects in cast-iron, forms which it is usual to hew out of solid stone are directly imitated, in a manner which completely sets at defiance the associations which properly belong to the material.

Our limits preclude us from entering in detail into the history of the various improvements that have taken place in iron-casting in France. It may be sufficient to state, that they have been carried on nearly simultaneously and identically with those which have been introduced so rapidly and with such singular success in this country, and to which we have adverted in our notice of the works of the Coalbrookdale Company (Plate XIX.). We may, however, advert to the remarkable developement of cast-iron as a decorative material, which has taken place in Paris since the year 1818.

This progress is mainly to be attributed to the exertions of M. Calla, who, on his return from a tour in England in that year, added to his former works in Paris an iron-foundry, which speedily took a prominent position, and exercised a great influence over the iron trade of France. It was M. Calla who first executed iron ornaments on a large scale for public and private edifices; and by combining good taste with admirable execution he was enabled to overcome the prejudice which had existed against that material, and to introduce it in many positions in which bronze alone had been previously employed. Among the principal of these may be mentioned a number of works executed for the Palais Royal, the Tuileries, and the Château of Randan; as well as many objects, both of construction and decoration, for the Panthéon, the Church of the Madeleine, and those of Nôtre Dame de Lorette and St. Vincent de Paul. His admirable execution of the colossal statues which decorate the beautiful fountain in the Place de Richelieu attests at once his skill as a founder and the applicability of the material to such monuments; which, in fact, require but very slight attention for the purpose of preventing oxidation, to ensure for them a durability scarcely less lasting than that of bronze.



H. DELAMOTTE. DEL.

M. DIGBY WYATT, DIREXT.

F. BEDFORD LITH.

FOUNTAIN IN IRON, BY ANDRÉ OF PARIS.

LONDON. PRINTED AND PUBLISHED FEBY 15TH 1852 BY DAY & SON LITHOGRAPHERS TO THE QUEEN

PLATE XL.

A GROUP OF CRYSTAL VASES AND INDIAN JEWELLERY.

THE most cursory examination of the contributions from the Indian Peninsula to the Great Exhibition could not fail to convey an impression of the great superiority, in point of design, which the objects from its northern districts displayed over those from its southern. As the arrangements of colour, and the adaptations of the forms of flowers and foliage, were perceived to be most admirable in Cashmere, so it became apparent that the treatment of form and decoration exhibited its highest qualities in Lahore and the Punjaub generally.

It would be difficult to prove more conclusively the excellence of the productions of Northern India than by the very beautiful crystal vessels which form such conspicuous objects in the group we have now engraved. In these beautiful works we may at once admire the simplicity of the main or bounding lines, the refinement of the ornament employed to decorate them, and the exquisite workmanship which has been devoted to its application.

That constant wonder which arises from contrasting the admirable and elaborate results attained in Indian manufactures with the simple means by which they were produced, cannot but be excited in an especial degree, when we turn from a consideration of the perfect skill by which these vessels must have been wrought, to a description of the primitive lapidary's wheel by which their graceful forms have been elaborated. This contrivance is described as follows in a passage from the "Bombay Times," quoted in the "Official Illustrated and Descriptive Catalogue:"—"The wheel consists of a strong wooden platform, sixteen inches by six, and three inches thick. In this are two strong wooden uprights; between these is a wooden roller, eight inches long and three in diameter, fastened into a head at the one end, and this works on an iron spindle or axle at each end. On the one end the axle is screwed and fitted with a nut, by which the cutting or grinding wheel can be made fast. The lap-wheels consist of two circular discs or cakes of lac, with ground korund, coarse or fine according to the work; of a copper disc for polishing the very hard, and a wooden one for finishing the work of the softer description of stone. These are spun backwards and forwards by a bow, the string of which passes round the roller. The lapidary sits on his hams, steadying the wheel with his foot, and holding on the stone with his left hand while he works the bow with his right."

For the execution of works upon a larger scale, it appears probable that the Hindoo workmen have availed themselves only of a small steel chisel and an iron mallet; and by means of these rude instruments their most elaborate rock-cut carvings have been executed, and the highest polish given to some of the hardest substances in which their sculptures are produced. Dr. Kennedy, who is quoted by Dr. Royle in the "Illustrated Catalogue," remarks that "with such simple instruments they formed, fashioned, and scraped the granite rock which forms the tremendous fortress of Dowlatabad, and excavated the wonderful caverns of Ellora; for it seems by no means probable that the Hindoo stone-cutters ever worked with any other tools."

The various objects we have grouped together furnish some slight indication of the passion indulged in by the native princes of India for articles of the most precious and costly description. Not only every sovereign, but almost every petty prince, retains among his dependants many workmen whose lives are spent in ministering to this aristocratic rage for jewellery. It may readily be imagined, from the valuable nature of the materials with

which he is called upon to deal, that the goldsmith becomes an important officer in every household; and we are told in Dr. Buchanan's interesting notices of the native industrial classes, that "gold and silversmiths are called *sonar*, and the *sonar* forms a regular part of the monarch's establishment. His office is hereditary; and he weighs the crops when a division takes place between the landlord and tenant, or when either of these sells to the merchant. By orders of the police, the goldsmiths always work at home, but are watched by their employers to see that they do not adulterate the metals. The price for working silver is from one-sixteenth to one-fourth of the metal, according to the nature of the work. For working gold the price is from one-fourth to one rupee of silver for every rupee's weight of gold. The Minamorussa give various ornamental colours to the precious metals. A great many of the gold and silversmiths cannot give their work any polish; but one man in Patna, called a *sonkari*, lives by polishing their coarse work, and two other houses, called *jelagurs*, live by polishing a kind of bracelet worn round the thick part of the arm, which is called *bazu*, is very much in fashion and is always polished."

It is exceedingly interesting to trace the gradations by which this taste for display descends from the prince to the peasant. Each state and condition of society is distinctly marked, almost as much by the variety in quantity and quality of the jewels which decorate the females as by the rigid laws of caste. In the minute and detailed estimates made by Dr. Buchanan of the exact amount of property belonging to families in various classes of native society, we find a detailed estimate of the value of the personal ornaments usually possessed by the individuals belonging to each.

The general good taste which characterises the richer of these objects has been well remarked on by Dr. Royle. "There is," he observes, "great elegance in the silver service inlaid with mosaic from Cashmere. The same elegance of form is seen in the rose-water sprinklers, or goolabas, which are employed to sprinkle rose-water over departing visitors. Much of the jewellery, though rich and handsome, is peculiar, because the taste of the natives and the modes of wearing it differ from those of Europeans. A great variety as well of jewelled boxes have been sent by the Maha Rajahs of Nepal and Cashmere, and by the Rajahs of Rajpootana and of Cutch. The gold and silver girdles of Vizianagrum are as perfect in workmanship as the gold chain of Trichinopoly is elegant. Dacca is one of the places celebrated for its silver filagree work; Cuttock and Agra are others; from all of which specimens have been sent. The articles usually made are bracelets, ear-rings, brooches, and chains, also groups of flowers, attardans, and small boxes; of all of which beautiful specimens have been sent. Mr. Taylor says the design best adapted for displaying the delicate work of filagree is that of a leaf. It should be drawn on stout paper and of the exact size of the article intended to be made. The apparatus used in the art is exceedingly simple, consisting merely of a few small crucibles, a piece of bamboo for a blow-pipe, small hammers for flattening the wire, and sets of forceps for intertwisting it."

A perusal of the dry enumeration of the articles of jewellery and the precious metals contributed from India to the Great Exhibition is sufficient to inflame the imagination with the most highly coloured visions of Oriental splendour. From every part of that continent these specimens were most abundant, and although peculiar fashions may exist in the different divisions of that vast continent, the affection for such objects appears to be universally dominant.

It is in Cambay in particular that the lapidary's art has been brought to perfection, and the fullest information on the articles of that district may be found in the "Illustrated Catalogue," in the interesting remarks of Mr. Augustus Summers, senior apothecary of Cambay. Those remarks afford ample details as to the materials employed and the organisation by which two thousand people are kept in constant work in ministering to that passion for luxurious adornment, both of their persons and apartments, which, from the days of Alexander to the present time, has been proverbial in the land of the far East.

H. PIDGEON. DEL.

M. DIGBY WYATT, DIREXT

F. BEDFORD LITH

GROUP OF CRYSTAL VASES, AND INDIAN JEWELLERY.

LONDON. PRINTED AND PUBLISHED FEBY 16TH 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XLI.

A GROUP OF CHURCH-PLATE,

BY SKIDMORE OF COVENTRY.

Although Mr. Skidmore has only within a few years past manufactured objects similar to those represented in this Plate, his attention has been for many years sedulously devoted to the forms and processes which characterise those vestiges of the skill of our forefathers in the goldsmith's art which have descended to our own days.

Considering how closely Mr. Skidmore has studied the mode in which such objects were formerly fabricated, it must be regarded as especially satisfactory that his own compositions display considerable originality. In his two-handled chalice, he has sought to revive the early traditions of the Church, departing from the dogmatic laws which ordinary and comparatively modern usage has prescribed in the design of such objects. In the introduction of enamels and of nielli, as decorative adjuncts, he has been especially successful; and it is gratifying to see these arts, which have been so long dormant, reproduced with all the beauty and perfection of the best periods of their ancient popularity. All the objects which are introduced in our present illustration are suitable for Protestant use, and we cannot but regard the two-handled chalice as peculiarly appropriate for those churches in which large congregations are required to participate in the holy elements.

In subsequent notices we shall have frequent opportunities of returning to the subject of ancient metal-work, and may, therefore, at present confine our remarks to the peculiar forms and decorations of vessels such as those we have now engraved. With regard to the archæology of the subject, we cannot do better than avail ourselves of the admirable guidance of Mr. Albert Way, whose interesting "notices of ancient vessels, ornaments, and appliances of sacred use,"* convey the best possible information on the subject. Mr. Way informs us that "in earlier times, whilst the communion of the faithful under both kinds was permitted, the chalice termed *ministralis*, or *communicalis*, was of considerable capacity, and furnished not unfrequently with a handle on either side (*calix ansatus*), so that it might be raised with greater ease and security. A curious representation of such a chalice occurs amongst the embroideries of the Imperial dalmatic, of Byzantine workmanship, preserved at St. Peter's at Rome, as the 'cappa di S. Leone III.' (795–816), but probably not more ancient than the eleventh or twelfth century. It may likewise be seen in the missal of the abbey of St. Denis, now preserved in the Bibliothèque Royale, where the miraculous appearance of the Saviour and administration of the Eucharist to St. Denis are portrayed. This MS. is attributed to the eleventh century. Theophilus, who wrote his treatise about the same period, as it is supposed, gives, with detailed instructions for the fabrication of the greater and lesser chalice, a chapter on fashioning the *auricula*, or *aures*, of such vessels, a term by which the side-handles appear to be designated. These large chalices, furnished with handles, were occasionally suspended in churches, with coronæ and other ornaments, and are termed by Agnelli *calices appensorii;* they may be seen in the illuminations of the Bible of Charles le Chauve and other MSS. In many cases the *calices ansati* appear to have been used as receptacles for wine, in place of the stoup or flagon of recent times; being ill suited, on account of their large dimensions, for the purpose of administration. A large chalice, with two handles, which could not be easily raised by a man, was preserved in the treasury of Mayence Cathedral. The fashion of the chalice in primitive ages was, probably, of the

* "Archæological Journal," vol. iii. p. 129.

most simple kind. The silver chalice, formerly exhibited to pilgrims at Jerusalem as the cup used by our Saviour at the Last Supper, was formed, as described by Bede, with two handles; and, although the antiquity of the tradition may be questionable, it is not improbable that in many instances the shape of the *calix ansatus* may have been assimilated to such a revered model. In later times, a plain cup was used, somewhat more elevated in its proportions, fashioned with a knop, or *pomellum*, beneath the bowl, whereby it might be securely held, and it was occasionally inscribed or marked by some appropriate symbol. Subsequently the bowl was made of smaller proportions, the administration of the wine to the laity being forbidden, and, as a precaution against the risk of its being overturned, the foot was made very wide, with indentations, intended, according to De Vert, to keep the chalice steady when it was laid to drain on the paten after celebration, in accordance with ancient usage. The knop and foot were decorated in the most sumptuous manner, the bowl being usually quite plain, nielli, enamels, gems, and other precious objects, were incrusted amongst the elaborately-chased or graven ornaments of the lower parts of the chalice."

Unfortunately, from the indiscriminate zeal of the Puritanic movement, and the carelessness, and even cupidity, of those whose duty it was, in past ages, to guard the sacred treasures committed to their charge, nearly every vestige of the ordinary church-plate, as used in this country, has passed away. In some few parish churches, however, ancient chalices may yet be found, and many are preserved in the old Catholic families of the land. From the practice which existed of burying with every ministering priest a model of his chalice, types of the peculiar English forms of the plainer description of these vessels are not rare; but when we endeavour to acquire any information concerning the richer and more elaborate specimens, it is only from ancient inventories, and similar documents, that we can glean any authentic particulars. An extract from two of these descriptions will furnish some indication of their minute detail, and of the splendour of the objects they describe. Dugdale, who presents us with a glowing picture of the glorious riches of old St. Paul's, has preserved the following account of the precious chalices and patens which belonged to the sacristy of that cathedral.

"From the inventory of old St. Paul's Cathedral, London,—'Calix de auro qui fuit Alardi Decani ponderis cum patena xxxv^{s}. x^{d}. Et continet in pede vii lapides, et in patena est medietas ymaginis Salvatoris. Item, calix de auro cum pede cocleato, et in patena manus benedicens cum stellulis in circuiter impressis ponderis cum patena xli^{s}. vii^{d}. Item, calix de auro quem dedit Will. de Bunera ponderis cum patena continente manum benedictionis £x v^{s}. v^{d}. Item, calix de auro, qui fuit Henrici de Wengham Episcopi, continens in pede circulos aymalatos, et circa pomellum sex perlas, et in patena Agnus Dei ponderis cum patina xlviii^{s}. iiii^{d}. Item, calix argenteus deauratus, qui fuit, ut dicitur, Magistri Rogeri Capellani, cum flosculis in pede levatis, et in patena plena Majestatis ponderis cum patena lii^{s}. Item, calix argenteus Henrici de Northamton deauratus, cum pede cocleato & scalopato et pincato ponderis cum patena l^{s}.'"

For the benefit of those to whom the monkish Latin may not be perfectly intelligible, we add an extract of a similar nature from the inventory of Lincoln Minster:—"Imprimis, a chalice of gold, with pearls and divers precious stones in the foot and in the knot, with a paten of the same, having graven, 'Cœna Domini,' and the figure of our Lord with the twelve Apostles, weighing thirty-and-two ounces. Item, one great chalice, silver and gilt, with the paten, weighing seventy-four ounces, of the gift of Lord William Wickham, Bishop of Winchester, some time Archdeacon of Lincoln, having in the foot the Passion, the Resurrection of our Lord, and the Salutation of our Lady; and in the paten, the Coronation of our Lady, having a roll in the circumference, written, 'Memoriale Domini Willielmi Wickham.' Item, a chalice, silver and gilt, with one plain paten, chased in the foot, with a written knop, with one gilded spoon, containing a scripture, 'Blessed be God,' having a scripture in the bottom, 'Johannes Cynwith,' weighing thirty-eight ounces and a quarter. Item, a chalice, chased in the foot, silver and gilt, with a paten, graven with a lamb and four Evangelists, weighing three-and-twenty ounces. Item, a chalice, silver and gilt, with an image of the crucifix in the foot, with a paten, our Saviour sitting upon the rainbow, weighing ——. Item, one chalice, silver and gilt, having about the cup, 'Laudato Domino in Ecclesia Sanctorum,' and on the foot, 'Totus mundus est Ecclesia,' and on the paten, 'Enixa est Puerpera,' &c., of the gift of the Lord Charles Boothe, Bishop of Hereford."

From documents similar to the above we might quote numerous descriptions of the ornamented flagons and precious book-covers once in constant use in the cathedrals and other churches of England. But as the style of their execution, and the ornaments that were made subservient to their enrichment, were in general similar to those of the ancient chalice, we should fatigue the reader, and exceed our necessary limits, by enumerating them

F. SMALLFIELD DEL.ᵗ M. DIGBY WYATT, DIREXᵗ F. BEDFORD LITH.

A GROUP OF CHURCH PLATE BY SKIDMORE OF COVENTRY.

LONDON, PRINTED AND PUBLISHED MARCH 1ST 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XLII.

PAPER-HANGING,

BY HINCHLIFFE OF CHELSEA.

It is always gratifying to recognise in the productions of old-established firms the retention and energetic exercise of those powers by means of which their original reputation was obtained; and it is, therefore, in the present instance eminently satisfactory to be enabled to observe, that the credit of the well-known factory at Whitelands has been worthily sustained by the various specimens contributed from it to the Great Exhibition. Among those specimens there were few which displayed more quiet and excellent taste, alike in colour and in form, than the graceful design which forms the subject of our illustration, and, in the whole Exhibition, there were few pieces of paper, as specimens of execution, more neatly and carefully printed.

As in the course of the present work we hope to be enabled to give several other notices of the art of paper-staining, we shall confine our remarks, in the present instance, to a few observations on the mural decorations of a simply textile nature, which have at various periods taken the place of paper-hangings in this country, and which have now been almost entirely superseded by them. We shall see hereafter how many of these, paper-hangings are frequently made to imitate, and how many suggestions for varied patterns, textures, &c., they have afforded.

In spite of the thick walls built by our ancestors, we can scarcely doubt that draughts were abundant in their unplastered buildings. To protect themselves from these piercing chills, hangings were introduced, which covered the face of the wall, and which served at the same time for use and for ornament. While the weaver's art was a simple craft, these cloths were quite plain, and it was to relieve that too great simplicity that the ladies of the olden times, of the days of the Henrys and the Edwards, whiled away the long evenings in embroidering the "gestes" and exploits of their lords in the field or in the chase, and the ghostly incidents of the "Aurea Legenda." As the art of weaving improved in Flanders, and as the industrious Flemings settled in this country and gradually extended their operations, these cloths became more elaborate in style, and the skill of the embroideress was restricted to the execution of vestments and garments lay and clerical. Gradually the weavers gained the power of enriching their stuffs with patterns, heraldic and conventional, and at last the fabrics which displayed the cognizances of the nobles' woven "semès," and which served for the hangings of their apartments, grew into the storied tapestry in which whole histories were skilfully wrought out, with all the pomps and vanities of the most elaborate costume and accessories.

This tapestry or arras, as it was called from being first made at the town of Arras in Flanders, was hung up by means of hooks fixed either at the ceiling or at a lower level, and servants, called "upholders,"* were specially appointed for their care,—more particularly during the removal of the tapestries to accompany their owner when he journeyed from one residence to another. It is probable that heraldry was originally employed in their decoration, since, in 1392, we find Richard of Arundel bequeathing to his wife the hangings of his hall, described as made in London, of a blue colour, and having red roses and the arms of his sons figured thereon. Warton† mentions, that *tapestries*, containing a representation of Syr Guy's famous fight

* Hence the term "*upholsterer*."

† "History of English Poetry."

with the dragon in Northumberland, were in existence at Warwick Castle before 1398. He also gives a long list of the subjects treated on the tapestries of the various palaces belonging to Henry VIII. There are also very full descriptions of hangings in the extremely interesting inventories of Henry VII., now existing in the Record Office. Hunt, in his "Exemplars of Tudor Architecture," remarks that, "Of the historical and fabulous subjects represented on these hangings, the siege of Troy, the story of Hercules, and the parable of the Prodigal Son, seem to have been the favourites, as they are the most general." "Parke work" (landscape) and heraldry particularly, held high places in the estimation of the "devysors" of bygone times; and "in 1503, Katherine, Lady Hastings, disposed by will of 'counterfeit arras with my lord's armes, counterfeit arras with the imagery of women, alsoe pieces I have of blew and better blew with my lord's armes; and also pieces of hangings of verd that now hang in my chamber and the parlour.' The latter were probably hangings of rich silk in one colour, or, in fact, flowered damask."

With regard to their value he adds, "Some notion of the prices of hangings may be collected from a letter of Gilbert Talbot's to his father, the Earl of Shrewsbury, dated 1576,* wherein he says, 'I have seen many fayre hangynges, yor L. may have of all prycesse, eyther iis. a styck† or vii grotes, iiis. ivs. vs. or vis, the styck, eaven as yor L. will bestow; but there is of vs. the stycke that is very fayre; but unless yor L. send upp a measure of what depthe and bredthe you wolde have them, suerly they will not be to yor L.'s lykynge; for moste of them are very shallow, and I have yet seene none that I thynke depe inoughe for a great chamber, but for lodgynges.'"

The materials latterly used in the superior description of this furniture were of the most costly kinds. Old inventories frequently mention cloths of gold and of silver, and embroidery, and a cloth made of a mixture of silk and gold called "baudekin."‡

Holinshed speaks of this in his description of the palace built outside the town of Guines, on the occasion of the tournay of the Field of the Cloth of Gold,—"Beside rich and marvellous clothe of arras, wrought of golde and silke, compassed of manie auncient storyes." The room in which Henry VIII. received Francis I. at Calais, in 1520, is described as hung with cloth of gold, decorated with pearls and precious stones. And from Wolsey's inventories, we learn that in his sumptuous apartments, the gorgeous materials of the hangings were cloths of gold and silver and tapestries of pictorial subjects. Lord Orford, in his description of the sale of the effects of Charles I., says,—"One set of hangings relating to the story of Abraham, in eight parts, at Hampton Court, was valued in the inventory at 8260*l.*; and another in ten parts, the history of Julius Cæsar, was appraised at 5019*l.*" Most of the figured tapestries were importations, for we find in an act of Henry VIII. 1512 (4 Henry VIII. c. 6) as much as 4000 pieces of tapestry, &c. mentioned incidentally as coming in one ship. At what time tapestry was first manufactured in England, we have little satisfactory evidence; but Dallaway writes, "It was certainly previous to the year 1344, when a writ was issued (17 Edw. Tertii, m. 41) 'De inquirendo de mysterâ Tapiciorum London.' Henry VIII. gave a patent to John Mustian to be his arras-maker; and in the same reign, a private gentleman named Sheldon established at Barcheston, in Warwickshire, a manufactory in which some pieces were made, consisting of maps of counties, some fragments of which are still preserved."§ Dallaway also furnishes us with "A full account of the manufactory at Mortlake of Sir F. Crane, conducted by F. Cleyne, in the reigns and under the especial patronage of Kings James and Charles I."

The first mention of the importation of Gobelin tapestry is of that brought into this country by Charles Brandon, duke of Suffolk, being a part of the dowry he received with Mary of France, sister of Henry VIII.

In our next article on the subject of paper-hangings, we shall endeavour to trace the steps which immediately led to their introduction.

* Quoted in Lodge's "Illustrations."

† "Styck" is derived from the German word Stück—a piece.

‡ A name derived by us from the purpose to which it was first applied, viz. to form the baldacchino, or canopy, placed over the high altar of the Italian churches on great occasions, and also over the thrones of princes. Alberti tells us that baldacchino is also the name of a Levantine stuff, which comes from Babilonia, called by the Levantines "Bagdad," and by our ancestors "Baldacco." G. Villani speaks of "Un ricco palio di baldacchino di seta e di oro, messo sopra la sua persona."

§ Walpole's "Anecdotes," edit. Dallaway.

M. DIGBY WYATT DIREX

PAPER HANGING BY HINCHLIFFE & Co. OF LONDON

LONDON, PRINTED AND PUBLISHED MARCH 1ST 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE XLIII.

A METAL BEDSTEAD,

BY WINFIELD OF BIRMINGHAM.

Perhaps to the uninitiated there is no term which would be likely to convey a more false impression than that which is generally employed to designate one of the most important branches of the staple commerce of Birmingham. The "*brass toy trade*," despite its nominal insignificance, has probably contributed more than any other to the prosperity of that busy town; and no slight activity and energy are required to enable the principal firms in that branch of manufacture to send out, to the very ends of the earth, all that endless variety of articles of furnishing application, in which brass figures as the most important fundamental material. By the courtesy of the well-known firm at whose establishment the object we engrave was executed, and by availing ourselves of the practical knowledge of the subject possessed and kindly placed at our disposal by Mr. W. C. Aitken, by whom many interesting annotations were furnished to the "Official Illustrated Catalogue," we have acquired some information respecting the operations and processes of the Birmingham metal "toy trade," upon which we proceed to offer the following remarks.

It has been estimated that at the beginning of the eighteenth century the consumption of brass in Birmingham amounted to about 100 tons annually, and it may be safely affirmed that it reaches 10,000 tons at the present time. Upwards of 7000 individuals find employment in the various departments of the trade.

The Cambridge Street Works (at which the bedstead was executed which forms the subject of our illustration) were originally commenced in 1820, upon a comparatively limited scale. So greatly have they increased, however, since that period, that upwards of 600 workmen now ply their busy craft within the limits of the factory. Of the above-mentioned number of workmen, 150 are engaged in the manufacture of metal bedsteads; an equal number in the fabrication of the best quality of gas-fittings; and the remainder in the production of stamped brass ornaments for upholstery furnishings, metal tubing, wire, and the partial preparation of some of the objects which are subsequently completed by smaller manufacturers. An idea of the extent of its operations may be gathered from the fact, that 130 tons of copper and 45 tons of zinc are annually consumed in the making of brass, and that upwards of 100 of the ordinary iron bedsteads are sent off every week. Many very important improvements in the construction of metallic bedsteads have been invented and introduced in this establishment; among others, that of making the pillars which support the tester *continuous*, instead of out of a number of small pieces. This arrangement has imparted to them a stability previously unattainable, owing to the great strain which leverage brought upon the metal collars employed to unite the short lengths of tube required on the old system to make up each pillar.

The bedstead of which our lithograph is a representation was made expressly for the Great Exhibition, and possesses many pleasing details in the style of the French Renaissance. The cast scroll-work is harmonious in its curves: the little Cupids are prettily introduced, and the general design is agreeable and consistent with the conventionalities proper to works in metal. In the lightness and tenuity of the parts, the length of the columnar proportions, and the general sharpness of the details, the character of the material has been well expressed; and we may notice this object as especially free from that uncomfortable bulkiness of form, which, although proper only to wood, is yet so frequently to be met with in modern metal-work, especially when applied to furniture. It was, however, as a specimen of workmanship of the best class that this bedstead was to be especially admired. The perfection of the various plane faces, the fleshy texture of

the figures, the delicacy of the joints, the freedom of the chasing on the foliage, the truth of the mitres and arrises, the rectangularity of the framing and fitting, the evenness of the casting throughout, and the rich colour of the metal, all contributed to the successful realisation of a successful design.

On inquiring into the processes by which objects of this description are produced, we find that when the design is drawn a model is made in wax, of which, when coated with lac varnish, to harden its surface, and prevent the adhesion of the sand of which the mould is made, a cast is taken in lead. The imperfections common to early impressions having been removed by the "repairer," with his small gravers and chisels, a cast is taken in brass, which the "chaser," with his "mats," "punches," "stipple tools," and "riffles," speedily corrects and reduces to a perfect representation of what is required; and this completes the permanent "model" or "pattern," from which thousands of facsimiles may be made. Simple forms are easily moulded, and leave the sand freely, but where concavities or undercuttings are introduced, much skill and patience are needed. To copy a purely spherical model, the mould requires to be of two halves only,—but in complex portions, the mould is composed of many parts, and the time expended in making it occupies several days. It is in the judicious discrimination as to the fewest number of pieces, and the arrangement of the several "hanging cores," that the evidence of ability on the part of the moulder is chiefly shown. To make the particles of the sand which forms the mould more adhesive, it is pounded in a mortar, and its facilities for receiving the impression of minute details are increased by dusting over the surface with powdered loam and ground charcoal. In order to withdraw the original pattern, the several parts of the sand mould are lifted out by means of small points of wire, and after their removal, the pattern is taken out and the cores are replaced,—provision being made, by what are termed "gates," for the introduction of the fluid metal, which is melted in Stourbridge clay crucibles, in an air furnace with a clear coke fire. The moulds being closed and held together by wood clamps, the crucible and its contents are removed from the furnace, and the metal poured into the "gate" or aperture of the mould, in order to fill up the space left by the withdrawal of the pattern, and to produce an accurate copy of the original model.

The surface of a brass casting just removed from its matrix presents an appearance and colour closely resembling copper, whilst any roughness or superfluous metal indicates imperfection in the mould, to remove which, when the forms are simple, the file and the turning lathe will generally suffice. When a careful degree of finish is needed, the work requires to be "chased" up. Where the surface to be cleansed is of a "matted" kind, the aid of acid is called in, by immersion in which a uniform brilliant or a dead-gold appearance is secured. It is in this particular that modern brass-foundery differs from that executed by the skilful artisans of the middle ages, who produced a finished surface by friction, or by gilding through the medium of the mercurial amalgam. In acid finish, attention must be paid to the entire removal of grease, and a preliminary cleansing is absolutely necessary. For the final operation, the acid requires to be completely neutralised, otherwise the action will continue, and the surface be destroyed. The dead-gold appearance of much of the modern brass-work was the result of a discovery which arose out of the accidental circumstance of a piece of work having been left in the acid during the night. This hint was adopted, acted on, and successfully produced the desired effect.

The majority of the brass-work produced on the Continent is still gilt, but the gilding can be closely imitated, if some little care is taken in the composition of the metal, and if friction with a "scratch brush" be applied after "dipping." The burnished portions in brass-finishing are produced by steel burnishers, a little ox-gall being applied to prevent scratching. During this last process, the objects are kept wet from time to time by immersion in water and argol. After being "dried out" in box-wood saw-dust, they are protected from oxydation by a coating of lacquer, composed of spirits of wine, and coloured with a vegetable matter. The article to be lacquered is heated, and the lacquer applied with a camel-hair pencil.

In those objects produced from plates by pressure, the metal is prepared by being rolled into a thin sheet. The "dies" are formed of cast-iron or steel, but more commonly of the latter material: into these dies is cut or sunk the design to be copied in relief. The impressions are taken by means of a stamp-press, to the falling hammer of which a die, sunk in *intaglio*, technically called "a force," is attached. Annealing follows each blow, and the forces are so changed as to gradually increase in convexity, so that the highest relief and the minutest details may be brought up. The finish applied is the same as that described in connexion with cast brass-work. Of late years both plain and coloured glass have been introduced to a great extent, in combination with brass, and with such success that upwards of 22,000 pairs of cornice-ends and curtain-holders, into which the improvement has been introduced, have been sold within the few years which have elapsed since the taking out of Messrs. Winfield's patent.

H. N. HUMPHREYS, DEL. M. DIGBY WYATT, DIREXT. F. BEDFORD, LITH.

METAL BEDSTEAD, BY WINFIELD, OF BIRMINGHAM.

LONDON, PRINTED AND PUBLISHED MARCH 1ST 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XLIV.

INDIAN SHAWL, EMBROIDERED ON CASHMERE.

As a specimen of gorgeous colour and elaborate execution, nothing can be imagined to surpass the shawl which forms the subject of our illustration. Its scale of composition offers a striking contrast to that of the scarf-end engraved in Plate XXVIII.; since, while the purpose of the designer of that object appears to have been to so arrange his colours as to neutralise and lower one another, until the general tone was brought to a rich brown tint, that of the artist who distributed the relative intensities of the tones which make up the pattern now presented to our readers, was unquestionably to enhance the splendour of each tint by vivid contrast, and to stimulate rather than to tranquillise the imagination of the beholder. As the former of these patterns served to convey a good idea of the general tone and effect aimed at by the *weavers* of Cashmere, so the latter may suffice to exhibit the more brilliant scale upon which the operations of those who *embroider* the plain fabrics of the country are usually based.

In our present notice we propose to resume the subject of the shawl-manufacture of Cashmere, in continuation of the remarks offered in illustration of Plate XXVIII., and in so doing shall derive our information from the several authorities therein alluded to.

The merchants of the country are celebrated not only for the skill with which they fabricate the goods in which they deal, but for the astuteness with which they dispose of their products. Mr. Vigne gives a most amusing sketch of the ingenious blandishments they are in the habit of lavishing, with every semblance of disinterested affection, upon those they conceive likely to become customers, and the unceremonious promptitude with which the guest is got rid of the moment the bargain is concluded and the money paid.

Many of the rich merchants possess large factories, in which are crowded together as many as a hundred looms and many hundred workpeople. "The looms usually consist of a kind of framework, at which the persons employed sit on a bench, in number two, three, or four. On plain shawls only two persons are employed, and a long, narrow, heavy shuttle is used. Those of which the pattern is variegated are worked with wooden needles, there being a separate needle for the threads of each colour. For the latter no shuttle is required. When the warp is fixed in the loom, the *nakash*, or pattern-drawer, and the overseer, who determines the proportion of yarn of different colours to be employed, are brought together in consultation. The first brings the drawing of the pattern in black and white; the *overseer*, having well considered it, points out the disposition of the colours, beginning at the foot of the pattern, and calling out the colour and the number of threads to which it is to extend, that by which it is to be followed, and so on in succession until the whole pattern has been described. From his dictation, the *talim guru*, or foreman, writes down the particulars in a kind of character or short-hand, and delivers a copy of the document to the weavers. The workmen prepare the *tujis*, or needles, by arming each with coloured yarn of the weight of about four grains. These needles, without eyes, are made of light, smooth wood, and have both their sharp ends slightly charred, to prevent their becoming rough or jagged through working. Under the superintendence of the *tarah guru*, the weavers knot the yarn of the tuji to the warp. The face or right side of the cloth is placed next to the ground, the work being carried on at the back or reverse, on which hang the needles in a row, and differing in number from 400 to 1500, according to the lightness or heaviness of the embroidery. . . . . The cloth of shawls is generally of two kinds; one plain, or of two threads, and one twilled, or of four threads. . . . . Shawls are twilled, and are commonly about twenty-four nails broad. They differ in their

extent of field. Two persons are employed in weaving the cloth of this breadth. One throws the shuttle from the edge as far as he can across the warp, which is usually about half-way; it is there seized by the second weaver, who throws it onwards to the opposite edge, and then returns it to his companion, who, in his turn, introducing his fingers into the warp, forwards the shuttle to the edge whence it started."

"A loom may be occupied with one extra-fine shawl above a year, while others may produce six or eight in that time. Of the best and most noted sorts, not so much as a quarter of an inch is completed in one day by three persons, which is the usual number employed. Shawls containing much work are made in separate pieces at different shops. The wages of the head-workman are from six to eight *pice* per day. and those of the common workmen from one to four *pice*. The value of the *pice* in Cashmere is about three halfpence."

The shawls are made of various forms and sizes, and with borders adapted to different markets. These borders, unless very narrow, are made separately, and joined to the body of the shawl by skilful sewing. Hügel states that some shawls of this description contain as many as fifteen pieces.

Vigne informs us, that whereas a pair of shawls in which the pattern is *woven* costs in Cashmere 700 or 800 rupees, those in which it is *worked with the needle* are so far inferior in estimation, that a pair of equally good quality worked in the latter method may be obtained for 150 rupees.

When the shawls are cut from the loom, they are carefully washed, to deprive them of the stiffness left by the rice starch, in which the yarn was dipped, and to soften them generally. It is said that the peculiar properties of the water of a canal adjoining the city in which this operation is performed, imparts their extraordinary softness to the shawls of Cashmere. The water is thrown upon them, and they are trodden by the feet of the workmen, and then beaten against flat stones and dried in the shade, as the heat of the sun would be injurious to the colours. This process is repeated after an interval of ten days, and again a third time with the white shawls; which are bleached in the sun between each washing. To the latter soap is sometimes applied; but never to the coloured shawls, which would be injured by the alkali.

The principal mart for the sale of Cashmere shawls is Amritsir, in Lahore; but many merchants from Calcutta and other large cities of Hindostan visit Cashmere to make their purchases.

The highest price mentioned by Moorcroft for any fabric of this kind is £700; but a large proportion of their great cost is caused by the duties exacted by the native governors of Cashmere, and the provinces through which they are conveyed for sale. Hügel gives the following calculation of the price of a shawl selling for £200:—

Materials and dyeing	£30
Labour of twenty-four Artizans for twelve months	80
Duty	70
Charges of the establishment	20
	£200

An "English paper," published at Delhi, furnishes Mr. M'Culloch with the following particulars of the cost, &c. of a pair of real shawls, which in Bombay might sell for about 900 rupees:—

	Furrukabad Rupees.
Cost of wool	12 8
Cleansing, spinning, and dyeing	61 0
Weaver's wages	264 6
	337 14
Duties exacted by local governments in Cashmere, and in the transit to and at Bombay	252 30
Carriage and insurance	21 12
	610 56

The Cashmere shawl-manufacture has greatly declined since the rule of the Mogul emperors, when the city is said to have contained 30,000 looms. Under the Affghan kings that number was reduced to 18,000; and Hamilton, whose Description of Hindostan was published in 1820, states that at the time of his visit there were about 16,000, each employing three men, and producing, on an average, five shawls in a year, making a total of 80,000. It is believed that there are now (M'Culloch, 1844) not more than 6000 looms. Various causes are assigned for this decrease, the principal being of a political nature; such as the oppressions and exactions of the Sikh governors of the province; the reduced prosperity of Turkey and Persia (to which countries many shawls were exported); a diminution in the demand for them in Europe; and, finally, the destruction of 13,000 weavers in a few years by cholera and famine.

W. E. POZZI. DEL.

M. DIGBY WYATT. DIREX.

E. BEDFORD. LITH.

SHAWL FROM DELHI, THE PATTERN WORKED ON A CASHMERE GROUND.

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PLATE XLV.

FOUNTAIN IN TERRA-COTTA,

BY MARCH OF THEIERGARTENFELDE (NEAR CHARLOTTENBERG), PRUSSIA.

Berlin has now for some years past been celebrated throughout Europe for its productions in terra-cotta. The fountain here engraved was the principal evidence of Prussian skill in that branch of art contributed to the Great Exhibition; and whilst it admirably illustrated the perfection of the manufacture, it displayed at once a pleasing taste in composition, and great freedom and excellence in modelling. During the last fifteen years the firm by which this object was produced has continually advanced in excellence, and extended the field of its operations from the production of stoves, small vases, and similar objects, to the most important works of a decorative and architectural character. It has obtained especial celebrity for those elegant hanging baskets, made to contain flowers, &c., which have been generally adopted as favourite Christmas gifts by the middle classes of Berlin.

Terra-cotta, as its name imports, is simply baked clay; but considerable skill and care are required in its composition, so that exactly the right amount of vitrification may be ensured. The principal material of which it is composed is common potter's clay, with which a certain quantity of broken earthenware is mixed. Pounded flint is added, and a little sand to serve as a flux. These materials being finely kneaded together, are moulded into the necessary forms, which are then placed in a close kiln; from which they issue converted, from a soft plastic consistency, into a material as hard and as enduring as most natural stones. Some experience is required in so adjusting the design, that the various portions of the object may retain their form during the operation of cooling, upon their removal from the kiln. Unless the material be of a tolerably equal thickness in all its parts, the more solid portions are very liable to draw away from the thinner parts, which, if not causing fractures, will at least distort the general form, or, as the workmen phrase it, "throw the whole into winding."

The value of terra-cotta as a building material has been recognised from very early ages, and both by the inhabitants of Greece and Etruria the manufacture was carried to great perfection. Throughout the north and south of Italy we find many indications of its popularity, from the twelfth to the sixteenth centuries; and at Milan, particularly in the church of Sta. Maria delle Grazie, and in the Great Hospital, some admirable specimens of its manipulation are to be met with. Luca della Robbia and his family, in the latter part of the fifteenth and the whole of the sixteenth centuries, gave a great impulse to the employment of baked clay, through the discovery of a method of coating the material with a stanniferous glaze, so as to render it completely non-absorbent, and admirably adapted to endure the vicissitudes of climate; at the same time enhancing its capabilities as a decorative material, by the addition of brilliant and imperishable colours.

In the north of Europe it can scarcely be regarded as having met with the same popularity; and the form under which it was there employed partook rather of the nature of cut and moulded brick-work, than what is generally understood as pure terra-cotta. Thus in the buildings of the middle ages, in certain districts of Germany, much of the ornamental detail was executed in baked clay, though in so rough a manner as to appear, in fact, rather the work of the brickmaker than of the modeller. The forms were rudely carved out of lumps of prepared and half-dried clay of the same quality as that used for making the bricks, and the

mass so shaped was afterwards burnt in the common kiln; and although, in most instances, the ornaments are frequently repeated, yet it does not appear to have been the practice to make use of moulds to give form to the clay, but each separate piece was cut out by hand, probably assisted by templates, similar to those which are employed in mason's work. This is tolerably evident from an inspection of ornaments which, though similar in general form, yet show trifling differences in every example. The works thus produced exhibit, generally speaking, no pretence either to delicacy of form or finish, and are never minute in character or in the subdivision of their parts. The principal examples are to be met with in the north-east of Germany, where a total absence of stone led to the employment of plastic material for the purposes of building and decoration. The earliest specimens date from the year 1200, but it was during the fourteenth and the commencement of the fifteenth centuries that the most important works were executed. The towns of Hamburg and Lübeck, and several now comparatively unimportant places in the old Margraveate of Brandenburg, abound with buildings of this period, in which the architectural detail is executed in this rude species of terra-cotta.*

In the latter part of the fifteenth century, the old practice we have described was to a great extent abandoned, and it was not until the commencement of the present century that the manufacture was successfully revived. Although stoves have been for ages made up with pieces of glazed earthenware, throughout Germany, still this manufacture has only attained a high degree of perfection since the beginning of this century; it is extensively carried on in various parts of Prussia, but it is in Berlin and the immediate neighbourhood that the best specimens are produced. There appears to be little doubt that the success which attended the efforts of those by whom these stoves were brought into the market, induced efforts to be made to restore the use of terra-cotta for ornamental and architectural purposes, and the name of Schinkel is intimately associated with the introduction of this material as a decorative adjunct to buildings generally. To the influence of the classical taste of this great artist may, perhaps, be attributed much of the elegance of outline, and the refined delicacy of detail, for which all the Berlin manufactures in various forms of burnt clay are now so highly distinguished.

The elaborate architectural details, as well as the bas-reliefs, which enrich the exterior of the Bau-Academie at Berlin, designed by Schinkel, are all executed in terra-cotta, and bear unmistakeable testimony of his influence in promoting the rapid progress of the art. That very great care was bestowed upon the execution of these works, we may infer from the fact, that even the plain bricks forming the outer face of the walls of this building, are so highly finished as to approach more nearly to the quality of porcelain than of brick,— more particularly those forming some of the bands and stripes, which are glazed and tinted of a delicate violet colour.

In subsequent notices we hope to enter more fully into the peculiarities of the style of Luca della Robbia, and of the manufacture of terra-cotta as practised in this country.

* An able paper, illustrated by a series of original drawings, was read on the peculiar type of architecture of the "Mediæval Brick Buildings in the North-East of Germany and on the Coast of the Baltic," by Charles Fowler, jun., at the Royal Institute of British Architects, on Feb. 18th, 1850.

DALZIEL, DEL. M. DIGBY WYATT, DIRECT. F. BEDFORD, LITH.

A FOUNTAIN (IN TERRA COTTA) BY MARCH, OF THIERGARTENFELDE, NEAR CHARLOTTENBERG, PRUSSIA.

LONDON: DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XLVI.

SILVER-PLATE,

BY GARRARD OF LONDON.

As the design of the present work is to furnish models calculated to improve the public taste in matters of ordinary as well as of extraordinary use, we have preferred to select for illustration some of the comparatively minor objects exhibited by Messrs. Garrard, rather than any of their more costly and ambitious efforts adapted for execution on rare and special occasions only.

If the quality of taste can but be insured in the manufacture of articles of general utility, it must necessarily extend its influence over works of a more elaborate character. It may, therefore, be readily conceived, that the perfect execution and refinement of detail which characterise the objects we have engraved pervaded, in an equal degree, the larger and more complicated works contributed from the establishment of Messrs. Garrard. It would have been strange, indeed, if the productions of a house which for upwards of a century has enjoyed the patronage of royalty, and of the most distinguished of our nobility, had not displayed the utmost perfection of richness combined with beauty.

The works of Messrs. Garrard formed a conspicuous feature in the third Exhibition of British Manufactures, held at the Society of Arts in the year 1849; and will, no doubt, be fresh in the memory of all who studied those interesting displays—the immediate precursors of the Great Exhibition of All Nations. On that occasion the establishment referred to contributed a splendid gold centre-piece, executed by command of Her Majesty, from a design by His Royal Highness Prince Albert. In technical excellence that object could not well have been surpassed: its finishing and putting together were perfect, and in one respect it excelled every other piece of plate exhibited,—namely, in the delicacy of the contrast between the burnished and unburnished surfaces. A soup-tureen, in the Renaissance style, which was executed for Mr. H. T. Hope, M.P., and exhibited on the same occasion, furnished an admirable model for the form of such objects, and displayed an equal amount of skilful workmanship, and, perhaps, even more taste and appropriateness, than the centre-piece to which we have alluded.

The beauty and propriety of form displayed in the articles we have now engraved will convey a just idea of the perfection to which the Messrs. Garrard have carried the manufacture of plate suited to domestic uses. To the celebrity of those gentlemen as gold and silversmiths may be added an equally high reputation as jewellers; and it is due to them to observe, that the workmanship bestowed upon the setting of the gems which they exhibited was as faultless in its character as were the precious stones themselves.

As many of our readers may not be aware of the difficulties incident to the production of objects such as those at present under our notice, we proceed to offer a few remarks on the ordinary processes employed. The design of a piece of plate of an elaborate description having been drawn, the modeller proceeds to embody it in wax, finishing every portion of it with a degree of precision equal to that which is requisite for the finished object. Assuming that the body of the work is to be formed in what is called *repoussé*, or beaten-up work, a sheet of silver is cut into the form of the object, when developed upon a plane surface, and rudely beaten into a hollow, or dish form, by wooden mallets. The requisite degree of concavity having been given to it by hammering, ornaments in basso or alto-relievo are obtained by applying the internal surface

to an iron rod, which is made to vibrate by the frequent blows of a hammer on the end of the iron farthest removed from that in contact with the silver. The continued action of these vibrations, regulated by the skill of the workman, gradually gives the requisite form to the ornament. The rough developement of minute projections is obtained by more pointed irons of a similar description. In order to define more perfectly the form of these projections, the silver vessel is filled with a composition of pitch and ashes; so that blows with punches of various sizes may be applied to any part of its exterior, without injury to the general form. When, by this counter-action, the relief of the ornament is modelled up, the finishing touches and fine edges are given, by means of chasing with the graver. The pitch is melted out, and that portion of the piece of plate is ready for the subsequent processes of cleaning, polishing, &c.

Where certain portions of the object require to be cast, the moulder takes a mould in *intaglio* from the original wax model. Into this mould he lays portions of sheet-clay, answering in substance to the desired thickness of metal. By pouring in liquid plaster at the back of the clay, a core is obtained, on the hardening of which the sheet-clay is removed, and melted wax is poured in between the two plaster-moulds to take its place. The small piece of wax, thus cast, is made to serve as a pattern for the final casting in sand-moulds, the silver being run into the two halves of the mould, so as to fill up the space originally occupied by the wax which was removed to make way for the metal. When the requisite number of these small pieces of silver are cast, and their edges trimmed up, they are neatly fitted one to another. Solder is placed between them, they are connected together by wires, and by the action of a gas blowpipe upon the solder-joints the whole are united. The patience and dexterity required for forming an elaborate piece of work, consisting frequently of from thirty to forty, or even more, of these small castings, may be readily conceived. As an illustration of the extreme difficulty this subdivision of parts involves it may be noticed, that in the formation of the great candelabrum exhibited by Messrs. Hunt and Roskill there were at one time no less than six hundred fragments distributed throughout their workshops, the whole requiring to be adjusted and brought together in the manner described, so as to make up the whole object.

In order to abridge the labour consequent upon the formation of frequently recurring patterns, stamping, by means of steel dies, is often resorted to. These dies, or *forces*, are engraved in *intaglio*, and brought down with a heavy pressure upon sheets of metal placed beneath them, in a manner similar to that we have described in our notice of Plate XLIII. as necessary for the formation of brass die-work. In open silver-work, similar to that which forms the upper portion of the tazza we have engraved, the perforations are cut out by hand, but in commoner work by means of steel dies prepared for the purpose.

When the article is completely put together, all the imperfections are removed, by *riffles*, and other tools. Every part is carefully chased, so as to give the utmost precision to the ornaments, and variety of texture to the different portions. The whole is then cleaned down and polished, by a succession of rapidly-revolving brushes, in connexion with which various substances of a greater or less degree of fineness are successively employed, until the scratches at first produced by the operation become imperceptible. In those parts in which a dull finish is desired, the effect is obtained by the application of a small metallic brush; and where, on the contrary, extreme brilliancy is required, that result is produced by rubbing the parts with burnishers of steel or bloodstone. A white frosted appearance, or "dead finish," is obtained by covering parts of the object with a coat of pulverised charcoal and saltpetre, or argol, bringing it to a red heat over a charcoal fire, and finally quenching it in a pickle of sal-enixon.

The employment of dies has been carried to so great an extent, that many ordinary objects—such as spoons, forks, &c.—can be formed out of sheet-metal at a single blow.

DALZIEL DEL.

V. DIGBY WYATT D. REX^T

E. BEDFORD LITH.

GROUP OF PLATE BY GARRARD OF LONDON

LONDON PRINTED AND PUBLISHED MARCH 15TH 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE XLVII.

BOOK-COVER,

BY FRENCH, OF BOLTON-LE-MOORS, LANCASHIRE.

Great as has been the improvement of late years in ecclesiastical architecture, an improvement scarcely less marked has been effected in the forms and peculiarities of those accessories which are requisite for the proper and decent performance of the rites and ceremonies of the Church.

While much of the theory of this judicious reform may be referred to those accomplished scholars whose studies have been for many years concentrated upon the subject, its successful realisation in his own department must be mainly ascribed to the gentleman who has produced the beautiful object which we now engrave.

While engaged, about fifteen years ago, in a line of business dissimilar from that to which he has since devoted himself, Mr. French had his attention directed to the necessity for a supply of communion linen, ornamented with more appropriate devices than the ordinary patterns of tablecloths, and other domestic damasks. He accordingly had a few altar-cloths made, with suitable ornaments; and these, together with corresponding napkins, were eagerly purchased by the clergy residing in the neighbourhood of Bolton. The obvious propriety of the articles thus manufactured induced many inquiries from influential quarters, leading to an increased and greatly-improved production; and Mr. French was induced to pursue, with considerable zeal, the study of the subject under its antiquarian aspect. Some of the results of his researches he has given to the world in a little volume, entitled, "Hints on some of the minor Accessories to the Service of the Church,"—a work which had a most extensive circulation, and led to orders of so important a character, that the author gradually relinquished the business in which he had been previously engaged, and devoted himself to the production of church fittings of every description.

In addition to the volume to which we have alluded, Mr. French has published several tracts on subjects connected with his productions; and among them one of especial interest, on "The Arrangement of Colours in Ancient Decorative Art." The views which are put forward in that brief essay are advanced with equal enthusiasm and modesty, and agreeably testify the amount of observation and taste which the author brings to bear upon the work in which he is engaged. We cannot better illustrate the principles upon which is based the pleasing arrangement of tint which may be noticed in the accompanying engraving, than by quoting the conclusions to which Mr. French has arrived:—"Some years since," he remarks, "I had an opportunity of closely examining a number of illuminated manuscripts, of what I believe is allowed to be the best period of English mediæval art,—that of the first three Edwards. I was particularly struck with the uniform arrangement of certain colours, and remarked that the practice of the illuminators was,—1. To separate the prominent colours—red, blue, green, purple, ruby, violet, &c.—from each other, by spaces, or lines, of *yellow*, *black*, or *white*. 2. To paint with brilliant colours, on grounds of *yellow* (frequently gold), *white*, or *black*; or if the ground was of any other colour, to use *yellow*, *white*, or *black*, only for the ornamentation. 3. To combine two or more shades of red, or of blue, green, purple, &c., without the intervention of *yellow*, *white*, or *black*. 4. To place *yellow*, *white*, or *black* together, or upon each other, without reference to the law which appears to have regulated the arrangement of all other colours." Although we may hesitate to subscribe to every conclusion of Mr. French on the subject of colour, we must admit that his practice affords the happiest confirmation of the justice and propriety of his theories; for, so far as we have been able to remark, the various patterns which he has been called upon to design have been uniformly harmonious in colour. These have been all drawn by himself, or by a pupil, whom he has trained for that purpose.

In a communication with which Mr. French has favoured us he observes, that although his work is in extensive demand throughout England, and for the Episcopal Churches in Scotland, the most sumptuous specimens are sent to the United States of America; and he adds, that the British colonies give commissions for altar-cloths of a richer description, and in a greater proportionate number, than the Church at home.

In the manufactory at Bolton, about eighty hands are constantly employed in embroidery, upholstery, making robes, surplices, hassocks, &c; and eighty or one hundred more are unintermittingly engaged in other localities, in weaving the necessary velvets, cloths, carpets, damasks, linens, &c.

The beautiful book-cover we have engraved is a masterly specimen of mechanical execution in embroidery, and was wrought upon a velvet ground, in a combination of *appliqué* and ordinary stitch-work. At the close of the Exhibition it passed into the possession of one of the exhibitors, by whom it was offered to the Countess Granville, as a token of respect for the private character of the Earl, and his public services in connexion with the Exhibition.

Few writers have done more to illustrate the practice of ancient needlework in this country than the Rev. C. H. Hartshorne, whose contributions to the "Journal of the Archæological Institute," furnish most copious information upon the subject.* It would be unjust to the author of those able papers to attempt to condense, in our necessarily limited space, the complete series of historical facts which he has collected. We prefer rather to borrow from the "Ecclesiologist"† a few practical remarks upon the subject of the embroidery suitable for altar frontals and other ecclesiastical hangings. From that source we gather that the groundwork of these decorations may be of velvet, of silk, or of a ground of gold diaper, which is worked by the needle: but as these materials are not convenient for being worked upon, the embroidery itself is done on another material, and then sewn on to the general groundwork. The material upon which embroidery can be best worked is a stout linen, of very even make, soft, and sufficiently coarse to allow a thread of gold or silk to be passed through the interstices when required. The linen ought to be made of pure flax, without any mixture of cotton, because the cotton is likely to work through in small tufts, and is *fluffy* to work upon; and because, if gold be used, cotton is said to be hurtful to it, from some acid used in its bleaching. Before using, the linen must be well washed in pure water, or boiled, to take out the *dress*. The linen is used doubled. The materials with which embroidery is worked are gold thread called *passing*, and gold twist, floss silk, and a kind of half-twisted silk called *mitorse*. Jewels and spangles may be added, if required. The gold thread must be used doubled, in a needle, the threads being laid down on the work side by side; the threads only passed through the linen at the extremities to fasten them off. They are laid upon the linen, and fastened down at intervals with silk. This method is called cushion-work, from *couchant*, because the threads *lie* on the groundwork. This is the general way of working groundings, diapers, borders, &c. It is capable of great variety, from the facility of following any pattern with continuous threads of gold. Rich back-grounds are worked in diaper patterns, and when sewn with coloured silks present admirable effects of colour. A rich raised stitch in gold, resembling basket-work, is occasionally employed for borders, and is formed by sewing down gold thread in alternate rows over packthread. It is difficult to procure good gold thread in this country, and care must be taken to select silver-gilt, and not copper-gilt. In many respects, however, gold-coloured silk is to be preferred to bullion embroidery. The most common stitch is the old-fashioned embroidery, or long-and-short stitch. It is used for figures, parts of draperies, the under parts of flowers, &c. A very useful stitch is formed of floss silk, laid down smooth and straight, and crossed over in squares or diamonds with a thin silk. Every intersection of this reticulation of silk is tied down with silk or gold: the tie may be single or double. This has the effect of fine quilting. In the choice of these materials, and the employment of the various stitches, much must be left to the artist. A careful inspection of the ancient examples will afford the best information as to the methods by which the most beautiful effects have been produced; and even if the result of such studies should lead to no practical results, it will be impossible to examine such specimens as the Fishmongers' Pall, the Hereford and Ely Copes, and the elaborate specimens of needle-work preserved by Mr. Bowden of Derbyshire, Mr. Hailstone of Bradford, and Mr. Wilson of Lincoln, without deriving much valuable information respecting one of the most pleasing and universally-practised arts of the middle ages.

* See "Archæological Journal," vol. i. p. 319. Mr. Hartshorne's remarks have been reprinted in a complete form, together with an interesting, practical chapter by Mr. Paley, in a small and convenient volume, entitled, "English Mediæval Embroidery," and published by Mr. Parker of Oxford in 1848. See also the Countess of Wilton's "History of Needlework;" and Miss Lambert's "Handbook of Needlework."

† Vol. iv. p. 97. (No. 3, May 1845.)

H. RAFTER, DELT. M. DIGBY WYATT, DIREXT. F. BEDFORD, LITH.

BOOK COVER BY FRENCH OF BOLTON-LE-MOORS, LANCASHIRE.

LONDON, PRINTED AND PUBLISHED, MARCH 15TH 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XLVIII.

INDIAN SCARF END FROM DACCA,

EMBROIDERED ON WHITE MUSLIN.

It is gratifying to recognise one of the most important results of the Great Exhibition, as an educational agent, in the publication of numerous treatises, both scientific and popular, on the various branches of knowledge which were there for the first time collectively represented. Among these none more interesting in its nature, nor more learned and complete in all its details, has yet appeared than "A Descriptive and Historical Account of the Cotton Manufacture of Dacca, in Bengal, by a former resident of Dacca."* This small volume is the production of James Taylor, Esq., who, whilst in the medical service of the East India Company, resided many years at Dacca, and who not only availed himself to the utmost of the extensive opportunities for personal observation which he necessarily enjoyed, but also of the official records of the locality, in which much interesting material for the illustration of the subjects had been already collected.

It is justly remarked in White's treatise on Weaving, that in the ordinary, and even the best previous notices of that art in India, the matters of the greatest importance, in a utilitarian point of view, are wholly lost sight of. "The adaptation of the tools to the varieties of the work, the skill manifested in the management of the yarn, the size of the shuttle, the build of the heddles, the depth of the shed, the tension of the web, the length of the stretch, the state of the paste, and manner of using it in the process of dressing, are nowhere noticed." To supply this deficiency Mr. Taylor has most successfully laboured, and his work is so ample in its materials, and so lucid and agreeable in its style, that, dismissing all other authorities, we may at once proceed to condense from its pages the interesting information which bears upon the fabric under our consideration.

The province of Bengal was famous for the fineness of its muslins upwards of sixteen centuries ago, and its celebrity in that respect has by no means diminished even to the present time. The locality most renowned for this manufacture is the district of Dacca (in the eastern division of the province), which is about 1960 square miles in extent, and in 1837 comprised a population of 530,000. Weaving is carried on in almost every village, but the principal manufacturing stations (*aurungs*) where muslins are made, are the city of Dacca,—the capital of the district,—Sunargong, Dumroy, Teetbadee, Junglebaree, and Bazetpore. The metropolis is situated on the north bank of the Booreegunga, one of the channels through which the Brahmaputra discharges its waters into the Megna. Its population was computed in the year 1838 at 68,000, and at present the number of weavers' houses in the town is estimated at 750. It was described by Tavernier in the seventeenth century as a town of great trade.

The cotton of which the fine Dacca muslins are made is grown in the district, and differs from the common cotton-plant of Bengal in some particulars; the most important being, that the staple of the cotton is longer, much finer, and softer. The finest kind, which is called *photee*, and which has been cultivated from time immemorial in the district, is grown only in certain localities situated along the banks of the Brahmaputra and its branches, and the Megna. Its superiority has been attributed to the action of the sea, the water of which, mixing as the tide rolls in with that of the rivers, which overflow their banks during three months of the year, causes a deposition of sand and saline particles, and thus considerably improves and fertilises the soil.

* Published by John Mortimer, 141 Strand. 8vo. 1852.

As so much of the beauty and excellence of the finest Dacca muslins depends upon the operation of spinning, we abridge from the detailed account given by Mr. Taylor the leading points of that process, to which we limit our remarks on the present occasion. In a former article we adverted to the ordinary mode of weaving in India, and although we had not then the advantage of reference to Mr. Taylor's valuable publication, our description coincides, in most essential points, with that which he has given of the peculiarities of Dacca practice.

The cotton in the state of *kapas*, that is, with the seeds and wool unseparated, is cleaned and prepared by the women who spin the yarn. The wool adhering to the seeds is carded with the jaw-bone of the *boalee* fish (*silurus boalis*), the teeth of which, being small, recurved, and closely set, act as a fine comb in removing the loose and coarse fibres of the cotton, and all extraneous earthy or vegetable matter. To detach the fibres from the seeds, a small quantity is placed upon a smooth flat board, upon which the Hindoo spinner rolls an iron pin backwards and forwards with her hands, so as to separate the fibres without crushing the seeds. The cotton is then teased with a small hand-bow, formed of a piece of bamboo, with two elastic slips of the same material inserted into it, and strung with a cord of catgut, of silk, or of twisted plantain, or ratan fibres. Thus reduced to a light downy fleece, the cotton is spread out and wrapped round a thick wooden roller; and on the removal of the latter instrument, it is pressed between two flat boards. It is next rolled round a piece of lacquered reed, of the size of a quill; and, lastly, is enveloped in the smooth and soft skin of the *cuchia* fish, which serves as a cover to protect it from dust and from being soiled, whilst it is held in the hand during the process of spinning.

It is doubtless to the delicate organisation and fine sensibility of touch with which they are endowed by nature, that the inimitable skill of the Hindoo spinners is to be ascribed. The finest thread is spun by women, generally under thirty years of age. The spinning apparatus, which is usually contained in a small, flat work-basket, not unlike the *calathus* of the ancients, comprises the cylindrical roll of cotton (*puni*), a delicate iron spindle, a concave piece of shell embedded in clay, and a little hollow stone containing chalk-powder, to which the spinner occasionally applies her fingers. "The spindle (*tuku'-a*) is not much thicker than a stout needle. It is from ten to fourteen inches in length, and attached to it, near its lower point, is a small ball of unbaked clay, about the size of a pea, to give it sufficient weight in turning. The spinner, sitting on a low stool, holds it in an inclined position, with its point resting in the hollow of the piece of shell, and turns it between the thumb and forefinger of one hand, while she at the same time draws out the single filaments from the roll of cotton held in the other hand, and twists them into yarn upon the spindle. A certain degree of moisture combined with a temperature of about eighty-two degrees is the condition of the atmosphere best suited to this operation. The Dacca spinners generally work from soon after early dawn to nine or ten o'clock in the morning, and from three or four in the afternoon till half-an-hour before sunset. The finest yarn is spun early in the morning, before the rising sun dissipates the dew on the grass; or when this is wanting, and the air is unusually dry, it is not unfrequently made over a shallow vessel of water, the evaporation from which imparts the necessary degree of moisture to the filaments of cotton."

A spinner, devoting the whole morning to the spindle, can make about 90 grains troy of fine thread in a month. This is considered the maximum quantity; but as spinning is now more a leisure occupation than a professed trade, the average is not more than 45 grains per month. The price of the finest yarn used at Dacca is 8 rupees per tola of 180 grains, being at the rate of 31*l.* 2*s.* per lb. avoirdupois, or 60*s.* per lb. more than the yarn No. 7000, manufactured by Messrs. Houldsworth and Co. of Manchester. Yarn is measured by the *hath* or cubit of $19\frac{3}{4}$ inches, and is weighed by the *ruttee* of about two grains troy. The finest yarn used at Dacca in 1800 was 140 cubits in length to one ruttee in weight. Mr. Taylor tells us that a skein which a native weaver measured in his presence in 1846 proved, on being carefully weighed, to be in the proportion of upwards of 250 miles to the pound of cotton.

The varieties of Dacca muslins are exceedingly numerous. That called *mulmulkhas* has from 1800 to 1900 threads in the warp, which is a yard in width. The names of the different cloths are chiefly figurative, and expressive of the delicacy of the material. Two amusing anecdotes are told, as instances of the fineness of the muslin called *abrawan*. One, that the Emperor Aurungzebe, remonstrating with his daughter for the indelicacy of her costume, was told by her that she had on seven *jamahs*, or suits; and the other, that a weaver was once expelled from Dacca for his neglect in allowing his cow to swallow a piece of *abrawan*, which he had carelessly spread upon the grass.

In future articles we shall refer to the embroidery of Dacca muslins, and to the history of their manufacture.

P.H. DELLAMOTTE, DEL.

M. DIGBY WYATT, DIREXT.

F. BEDFORD, LITH.

INDIAN SCARF END EMBROIDERED AT DACCA ON WHITE MUSLIN.

LONDON, PRINTED AND PUBLISHED MARCH 15TH 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XLIX.

THE PLEASURES OF PUBLIC GARDENS,

A SERIES OF RELIEVOS BY DRAKE OF BERLIN.

THESE graceful compositions have been developed from the circular plinth which forms the pedestal of the marble monument of Frederick William III. of Prussia, erected at Berlin. As contributed to the Great Exhibition by Professor Drake, they were reduced to one-half the size of the original model. It would be difficult to imagine any treatment of such a subject more agreeable and expressive than that which has been adopted in this work of art, or any one better calculated to display the learning and dexterity of the sculptor. The combination in the same composition of representations of infancy, childhood, adolescence, maturity, and old age, involves a severe tax on the powers of the artist; and it is but just to admit, that in every detail very remarkable success has been achieved. It would be difficult to have found among all the specimens of sculpture displayed at the Exhibition any one more agreeably illustrating the dogma, that the appearance of beauty and simplicity in the imitation of Nature can only be attained by consummate Art. Every action, seemingly so unconstrained, and full of the elasticity and *naïveté* of youth, has been studied, and probably arranged and rearranged many times, by the artist before the happy line is hit upon, which expresses all that individual representation demands, and at the same time allies by pleasing contrast each figure with those immediately connected together by the conditions of the story. Much that the world is apt to regard in works of art, as the result of those happy accidents which are supposed to constantly occur to great genius, are produced by a concentration of the faculties, frequently so intense as to prostrate the physical powers of the artist; while that elaborate execution of accessories which strikes astonishment into the ignorant is accomplished by the dexterous hand almost without an effort. It is as furnishing a model of study in composition, and learned treatment of the human form in contrast, that the attention of the student requires to be most urgently directed to Professor Drake's beautiful pedestal; it would be superfluous to dwell on the happy incidents which develope the expression of a scene in which all "from grave to gay, from lively to serene," wear the uniform aspect of Innocence and Joy. We do not remember to have ever met with compositions so fully carrying out a sentiment of sylvan pleasures, and suggestive of such refreshing associations.

Frederick Drake, a native of Pyrmont, was educated in the *atelier* of the immortal Rauch, at Berlin. He soon became distinguished for his remarkable talent, and more especially for the facility and delicacy with which his portraits were executed, both in relief and in the round. Among those whose external forms it has been his privilege to record, may be enumerated many of the most distinguished men of modern times in Germany, such as Alexander and William von Humboldt, Rauch, Schinkel, and others. His great bronze statue which commemorates the *savant*, Justus Moser, at Osnabrück, has earned for its author a considerable reputation in the department of monumental art. The graceful bas-relief which is engraved by Count Raczynski,* representing a figure of Charity, exhibits the same felicitous treatment which characterises the object given in the lithograph.

* In his "L'Art moderne en Allemagne," vol. iii. p. 164.

Our artist at present occupies a professorial chair in the Academy of Fine Arts at Berlin, a position for which his talents and acquisitions in every way eminently qualify him.

In offering a few remarks on the progress of German sculpture, we shall touch very lightly on that of the earlier ages, since in most respects the processes of developement from century to century followed the usual course of Gothic art in most of the other countries of Europe. Debased Roman in style, in its incipient stages, it imbibed a peculiar hardness and rigidity in its Romanesque period of transition, though occasionally attaining a really grand severity. In its earlier Gothic phase it was truly fine, simple, and earnest in sentiment, although in its later stage it grew too florid,—expression degenerating into caricature, refinement into attenuation, and easy, flowing lines of forms and draperies into unnatural and angular contortions. In its Renaissance period Germany was peculiarly favoured, since in many of her sculptors' productions recurrence to antique types was happily blended with much of the old dramatic energy in composition and intention which prevailed in the best periods of the Middle Ages.

Scarcely any monuments of German sculpture of a date prior to the eleventh century are known to exist, though from soon after 1100 they abound. About the middle of the thirteenth century the Gothic element appeared to develope itself in sculpture, and may be recognised especially in the tombs which date from that period. In all the old cities, in Cologne, Strasbourg, Magdeburg, Freiburg, Naumburg, Wurtzburg, Bamburg, Augsburg, &c., the churches and cathedrals were most lavishly decorated with carvings in stone, metal, and wood. It was, however, at Nuremberg that the great stride was made, and the foundation laid for that excellence which subsequently so eminently distinguished that city. In the middle of the fourteenth century flourished Sebald Schonhofer, who executed the beautiful figures which decorate the porch of the well-known "Frauenkirche," and the yet better known "Schöne Brunnen," in the last-named city.

In the sixteenth century the reputation of Nuremberg was fully sustained by Adam Kraft, whose exquisite tabernacle in the church of St. Laurence has been a constant theme of admiration. Michael Wohlgemuth and Veit Stoss worthily sustained the reputation of the school of Adam Kraft, but it was reserved for Peter Visscher to far excel them, and to carry to its utmost perfection the sculpture of the Renaissance period. In the truly beautiful shrine of St. Sebald, in the church dedicated to that Saint in Nuremberg, the most lofty conception, graceful fancy, and finished execution are united, and one of the masterpieces of human design has been wrought into being.

After the death of Visscher numerous artists essayed to equal his productions, but none succeeded, although much prolific genius was constantly labouring for the rich merchants, more particularly of Augsburg. From the commencement of the seventeenth century the pernicious taste of Bernini spread from Italy over the Continent of Europe, and Germany did not escape its influence, beneath which Art dwindled to a comparative nonentity. The continued wars and troubles which devastated the Continent retarded for awhile the rekindling of the spent fire; but at length the ancient spirit of the German nation revived, and from the commencement of the present century her word of command in art, as it was of old in battle, has been only "*Vorwarts!*" Fired, no doubt, by the writings of Lessing, Winkelman, Göethe, Schiller, Schlegel, and many more, the youth of Germany has laboured hard; and at Berlin, Munich, Dusseldorf, and Dresden, schools have arisen, the admirable works emanating from which have redounded to the eternal honour of the present age. It is impossible to cite the names of sculptors such as Rauch, Schwanthaler, Dannecker, Rietschel, Kiss, Drake, and Wolff, without feeling that it is our good fortune to live in the same generation with some of the finest masters of the art who have ever existed, and whose works are worthy of the high state of mental culture universal at the present day in Bavaria, and in Northern Germany generally, but more especially in Prussia.

J. A. VINTER, DEL ET LITH.

M. DIGBY WYATT, DIREXT

THE PLEASURES OF PUBLIC GARDENS.—A SERIES OF BAS RELIEFS BY F. DRAKE OF BERLIN.

LONDON, PRINTED AND PUBLISHED APRIL 1ST 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE L.

A CANDELABRUM,

BY TRENTANOVE OF ROME.

The productions of this young sculptor exhibit many of the best characteristics of the Italian style of modelling of the Cinque-cento period; and he has unquestionably attained a facility and delicacy of handling, together with a breadth of style in the conventional treatment of foliage and architectural decorations, which afford an admirable illustration of the style of art which we propose to trace historically in the present article.

It has been long desirable that the purity of composition and graceful variety which distinguish the monuments of the great masters of decorative design in Italy should be more generally appreciated in this country; and it is, therefore, to be esteemed a fortunate circumstance that Signor Trentanove has permanently established himself in England.

Like every other phase of art characterised by extreme refinement, the progress of Cinque-cento sculpture has been slow; and it is through the labours of many generations of artists that we are enabled to trace its progressive developement. From the stiff acanthi and other features of the rude carvings of the Lombard masters—such as those of San Michele and other churches at Lucca—an uninterrupted chain of modifications may be traced, until we realise the playful treatment of conventional foliage which characterises the best masters of Cinque-cento art. The successful efforts of those artists were, in fact, carried on but in pursuit of the light of classic art, of which the Lombard sculptures reflected the last fading rays.

For the earlier links of this chain we must refer our readers to Cicognara's elaborate "Storia della Scultura," and Seroux d'Agincourt's "Histoire de l'Art par ses Monuments;" but taking up the narrative from the impulse given to the art in Italy by Nicola di Pisa, we may follow succinctly the steps which led to the ultimate perfection of the style under the immortal Sansovino.

The commencement of the thirteenth century was distinguished by the birth of the great Pisan Reformer, in whose various works we find the *naïveté* of action of Greek and Lombard art struggling with aspirations for the refinements of a more ideal style. In those of his son, Giovanni Pisano, much more of the Gothic sentiment—that of a happy tranquillity, combined with extreme purity and tenderness—is to be recognised. This awakening spirit of an art which, though Gothic in its details, bore still a powerful impress derived from the atmosphere of classic tradition in which its authors lived, spread rapidly throughout Italy.

At Rome, about the year 1300, the family of the Cosmati embellished the churches of the capital with many graceful specimens of ornamental carving,—principally in tombs, tabernacles, ciboria, &c. Somewhat later, Massuccio flourished at Naples; and at Venice, Filippo Calendario, whose beautiful capitals and ornaments of the old palace of the Doge have been the theme of admiration for every writer from Cicognara to Ruskin.

About the latter end of the fourteenth century a new spirit seems to have arisen, more particularly in Tuscany. The Gothic style of sculpture, which in that district had found favour in the eyes of Giotto, Orcagna, Andrea Pisano, and other artists, almost entirely disappeared before the more direct imitation of the antique, which was mainly introduced by Jacopo della Quercia, the remains of whose extraordinary fountain at Sienna bear all the characteristics of the purest style of Roman workmanship. Not content with imitating classic sculpture, Della Quercia—or, as he was subsequently called, from his great work, Della Fonte—exhibited in many of his productions a singular *naïveté* in imitating "the life." Thus, in his exquisite monument of Illaria

di Caretto at Lucca, several of the *puttini*, or children, who bear the festoons which decorate the sides of the tomb, display peculiarities of infantine distortion which unquestionably prove the artist's direct imitation of nature. The career of Della Quercia may be regarded as the turning point in the history of Italian ornamental sculpture, as he was the first of the actual Cinque-centists,—that is to say, the artists whose works confer so great a lustre upon the fifteenth century.

This distinguished sculptor was, however, far surpassed in grace, in dexterity, in the imitation of nature, and in a happy mastery over ornamental combination, by Lorenzo Ghiberti, one of his immediate followers. Donatello, again, imparted a life and vigour to the art, which, in spite of all their beauty, were often wanting in the compositions of Ghiberti; and the qualities of both these artists were happily united in the person of Lucca della Robbia, who, during his long life (which extended from 1400 to 1480), executed an infinity of works, the ornamental details of which were carried out in a style of the freest and most graceful analogy with the antique. In the person of Filippo Brunelleschi the talents of the sculptor and the architect were combined. The former are sufficiently evinced by the excellence of the trial-piece in which he competed with Ghiberti for the execution of the celebrated gates of San Giovanni Battista; and the latter by his magnificent cathedral of Santa Maria delle Fiore at Florence. This combination of architectural and sculpturesque ability was, indeed, a distinguishing feature of the period. Figures, foliage, and conventional ornaments, were so happily blended with mouldings and other structural forms, as to convey the idea that the whole sprang to life in one perfect form in the mind of the artist by whom the work was executed.

A developement of taste coincident with that noticeable in Tuscany took place at Naples, Rome, Milan, and Venice. At Naples, the torch that was lit by Massuccio was handed on by Andrea Ciccione, Bamboccio, Monaco, and Amillo Fiore.

At Rome, the opulence of the princes, and the great works undertaken by the successive Pontiffs, attracted to the Imperial City the highest ability procurable; and hence it is that in the various palaces and churches fragments of exquisite decorative sculpture are still to be met with. Bramante, Baldassare Peruzzi, and even the great Raphael himself, did not disdain to design ornaments for carvers, of the purest taste and most exquisite fancy. Of the perfection attained in this department of art by the last-named artist the celebrated wooden stalls of the choir of San Pietro dei Casinensi at Perugia will long remain unquestionable evidence. The carrying out of these carvings by Stefano di Bergamo does full justice to the admirable compositions of Raphael.

At Milan, the important works of the Duomo, and the Certosa at Pavia, created a truly remarkable school of art; among the most celebrated masters of which may be noticed Fusina, Solari, Agrati, Amadeo, and Sacchi. The sculptor's talent had long been traditional in that vicinity, and there can be no doubt that these artists embodied in the highest forms the lingering traditions of the *maestri* Comaschi, or Freemasons of Como; from whose genius many of the most celebrated buildings of the Middle Ages derived their highest graces of adornment. Of all the Lombard Cinque-centists, however, the highest admiration must be reserved for Agostino Busti, better known as Bambaja, and his pupil Brambilla, whose exquisite works in arabesque at the Certosa must ever remain marvels of execution.

At Venice, the first great names which call for notice are those of the Lombardi, through whose talents that city was adorned with its most famous monuments. They were followed by Riccio, Bernardo, and Dominico di Mantua, and many other sculptors; but their lesser glories are altogether eclipsed by those of the great Sansovino. At Lucca, Matteo Civitale (born 1435, died 1501) fully maintained the reputation of the period. Returning to Tuscany, we find, towards the close of the fifteenth century, the greatest perfection of ornamental sculpture. The names of Mino da Fiesole—the greatest of the celebrated school of the Fiesolani,—Benedetto da Majano, and Bernardo Rossellini, bring to our recollection the exquisite monuments which abound in the churches of Florence and the other principal towns of the Grand Duchy. These artists excelled alike in wood, in stone, and in marble; and their works have been surpassed in this style of art only by those of two individuals. Of these, Andrea Contucci, better known as the elder Sansovino, was pre-eminent in his art; and it would appear impossible to carry ornamental modelling to greater perfection than he has exhibited in the wonderful monuments which form the pride of the church of Santa Maria del Popolo at Rome. His pupil, Jacopo Tatti, who subsequently took his master's name, may be regarded as his only rival. He shone no less as an architect than as a sculptor, and his genius is displayed alike in the Cornaro Palace, the Library of Venice, and his wonderful bronze doors to the sacristy of St. Mark.

After the death of this great master the art attained no farther progress.

J.R. CLAYTON, DEL. M. DIGBY WYATT, DIREXT. F. BEDFORD LITH.

CANDELABRUM AND ARABESQUE — MODELLED BY TRENTANOVE OF ROME

LONDON PRINTED AND PUBLISHED APRIL 1ST 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE LI.

GROUP OF ENAMELS,

FROM THE ROYAL MANUFACTORY AT SÈVRES.

THE success which has attended the revival in France of the art of enamel, was admirably illustrated in the Great Exhibition by the objects contributed from the Royal Manufactory of Sèvres. At that establishment, all the most admirable processes of the Middle Ages have been successfully imitated, and the highest appliances of modern science and art have been brought to bear in equalling, if not surpassing, the most beautiful works of Léonard de Limousin, Courtois, and other celebrated artists of the age of Francis I. By the chemical knowledge and industrial skill of the late M. Lambert, the practical department of the art of fabricating various vitrified pastes was enriched with many new combinations; but it has been reserved for M. Ebelman, and his coadjutors in the Royal Manufactory, to carry to perfection the improvements so introduced.

When we recall the general apathy to the productions of the Middle Ages which existed at the period of the Great French Revolution, and the rage which then obtained for works of classical antiquity, we cannot but be proportionately struck by the efforts of M. Alexandre Lenoir to kindle the enthusiasm of his countrymen for the arts and monuments of their ancestors. In the rich collection of historical relics which M. Lenoir was enabled to bring together in the ancient convent of the Petits-Augustins, were included many of the most magnificent specimens of Limoges enamel; particularly those with which the tomb of Diana of Poictiers had been decorated.

At the beginning of the present century attention was especially called to monuments of this description, by M. Willemin's "Monumens Français inédits," and the intelligent remarks of M. Potier, accompanying the engravings. It is to M. Sommerard, however, that the French are indebted for the most copious, learned, and enthusiastic illustration of these, as well as of many other arts of the Middle Ages. In the collection commenced by that gentleman in the year 1807, and which is now deposited in the Hôtel Clugny, at Paris, numerous enamels, both of the earlier and later schools of Limoges, are exhibited gratuitously to every class of the population. To the names of the above-mentioned *savans*, whose liberality and zeal have so greatly enriched the industrial arts of their country, may be added those of M. Sauvageot, M. le Comte du Pourtales, M. Debruge Dumesnil, the Duc de Luynes, and the Prince Soltikoff.

Instructed by the writings of the authors, and by the study of the collections, referred to, the artizans of Sèvres have acquired a facility and command of manipulation in the art of enamel which has rarely been surpassed. While the general forms of the objects upon which their skill is habitually exercised have been derived from a careful study of the most beautiful specimens in the above museums, the precise arrangement of those forms, and the details of the ornamentation, are both original and eminently graceful.

The process by which the objects represented in the accompanying plate have been executed, consists in the formation of the article in thin copper. In flat objects the painting is executed on plates, which are subsequently mounted so as to produce the coffrèt, or other object desired. The surface of copper is in all cases coated with a vitreous paste, in the composition of which calx of lead, tin, and occasionally a little manganese, form the principal ingredients. The covering thus applied is white, clear, extremely hard, and fusible only at a very high temperature. It is applied on both sides of the copper, in order to prevent the

distortion which would ensue from the contraction of the paste in cooling, if applied on one side only. On the white ground thus prepared for the reception of ornamental painting, the artist proceeds to float over, in transparent enamel, whatever tints he pleases, care being taken that the metal oxides which form the colouring matter are mixed with such *frits* as shall liquefy at a lower temperature than that which would suffice to disturb the condition of affinity of the particles of the white enamel which forms the base. When gilding is employed to heighten the effect, it is usually covered with a thin vitreous glaze, which perfectly protects it from tarnishing, and imparts that extraordinary brilliancy which the decorations of many ancient enamels have maintained to the present day.

The peculiar style, in imitation of which the objects we engrave have been executed, is that which was practised by Jean Courtois, and other artists of his school; which immediately succeeded that of Léonard de Limousin, the great reviver of the art in the middle of the sixteenth century.

In order to fully appreciate the characteristics of the above-mentioned schools, it will be necessary to trace the progress of the art of enamelling from an early period; and as we contemplate pursuing the subject in subsequent notices, we shall content ourselves in the present with describing only the earliest periods of the art.

The archæology of the subject has been admirably treated by MM. Texier, Maurice Ardent, Potier, Labarte, Ferdinand Serés, Dussieux, Paul Lacroix, Du Sommerard, and other French writers, as well as by Mr. Albert Way, Mr. George Isaacs, Mr. Franks, Mr. Henry Shaw, and Mr. W. H. Rogers. As the result of their researches, we may assume that the practice of engraving cavities in copper, and filling them with vitreous pastes, which were subsequently fused by the action of heat, was generally known to the Gauls, and to the Celtic inhabitants of Britain and Ireland. This belief rests, in part, upon a remarkable passage in Philostratus, who lived during the reign of Severus,—that is, in the earlier part of the third century. This writer gives a vivid description of the chase, and mentions the horses employed in it as being decorated with harness, enriched with gold and many colours: "for," he remarks, "the barbarians of the regions of the ocean are skilful, as it is said, in fusing colours upon heated brass, which become as hard as stone, and render the ornament thus enriched durable." The fact thus commemorated by the historian receives ample corroboration in the curious relics which have been from time to time discovered in France and in the British islands. Most of these are either personal ornaments—such as fibulæ, &c.—or apparently horse-trappings and chariot-fittings. The pastes are usually opaque, the principal colours being red and yellow. The design is generally of a barbaric character; and although one fragment in the possession of Mr. C. Roach Smith displays unquestionable evidences of Roman design, that specimen must be regarded as almost unique.

Contemporary with the highest developement of the art of enamel among the "barbarians of the regions of the ocean," a curious variety of the same art appears to have sprung into existence among the Greeks, soon after the removal of the seat of empire to Byzantium. This is usually known as filagree, or *cloisonné* enamel, and consisted of a thin plate of gold, on which small ribands of the purest gold were so arranged, and secured by solder, as to follow the lines of a pattern previously traced upon the plate, and at the same time to divide the whole surface into a number of compartments, or little cells. Various fragments of coloured glass were then heated red-hot, and thrown into brazen vessels filled with water; and thus partially pulverised, they were reduced in a mortar to a state of powder. With these coloured powders the compartments formed by the filagree were filled up, and the work thus prepared was subjected, in a "muffle" furnace, to the heat necessary to fuse once more the coloured glass. When the enamels had been allowed to cool and harden, the whole was rubbed down and polished, as gems are; and the effects produced by this delicate process were extremely elaborate and beautiful.

Many interesting specimens of *cloisonné* enamel still exist in this country; the most celebrated being the well-known Alfred Jewel in the Ashmolean Museum at Oxford, and an exquisite little brooch in the Hamilton collection of gems in the British Museum. But the most remarkable instance of this kind of work is the celebrated *palliotto*, or altar-frontal of St. Mark's, Venice,—a work which was executed by the Greeks of Byzantium for the Doge Orseolo at the end of the tenth century.

In our next notice on this subject we shall trace the developement of the art in France, and in the other countries of Europe, during the Middle Ages.

H.C. PIDGEON. DEL.

M. DIGBY WYATT. DIRECT.

F. MORRIS. LITH.

A GROUP OF ENAMELS FROM THE ROYAL MANUFACTORY AT SEVRES.

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PLATE LII.

BOOKBINDING AND INLAYING,

BY BATTEN OF CLAPHAM.

It may be safely affirmed, that the art of bookbinding in this country within the last fifty years has never been surpassed by that of any other period in its history. The names of Herring, Lewis, Mackinlay, Hayday, and many others, deserve to be cited in future ages along with those of Grolier, Padaloup, De Rome, and Roger Payne; and among the works in this department contributed to the Great Exhibition few were more agreeable in design, or more admirable in workmanship, than those of Mr. Batten, a specimen of which we now engrave.

As the subject of bookbinding possesses much historical and artistic interest, we propose to notice successively the general nature of the operations it involves; the history and progress of the art; and such particular kinds of bookbinding as modern ingenuity has supplied as varieties from ordinary leather work.

The processes of binding may be divided generally into three stages;—namely, "making-up;" "covering;" and "finishing," or decorating. The sheets, as they leave the printers, having been folded by females, are "gathered" into the succession necessary to form complete books. They are then collated, and subjected to a "rolling press," by passing through which they acquire the compactness necessary to a well-bound book. The sheets are then sewn, by a thread passed successively though the middle of each sheet, to three or more strong bands, running transversely across the back of the book. This operation is also performed by females, with the aid of a simple apparatus called a "sewing-press." The book is thus "made-up," and ready for "covering." The case, or complete cover, consists of the *boards*, or stiffening substance for the sides, and the leather, technically termed the *cover*, which, at the same time, envelopes the boards and forms the back.

After sewing, the back of the unbound book is glued, to render the cohesion of the sheets more perfect; and by the skilful application of a hammer the binder gives a graceful convexity to the back, and forms the edges into grooves to receive the boards. The book being held in a cutting-press, the top and bottom edges are cut perfectly smooth with a pointed knife, or plough. To produce upon the front, or "fore-edge," a convexity corresponding with the curve of the back, it is necessary to render the latter again temporarily flat. The front edges are then cut smooth, and the back, resuming its rounded form, necessarily produces the desired curvature in front.

The mill-boards for the sides being carefully cut to the proper size, they are attached to the book by passing through them the ends of the bands to which the sheets were sewn. The next operation is that of putting on the cover, whether of roan, calf, morocco, or russia leather; and in this the dexterity of the skilful workman is displayed. The leather is cut sufficiently large to turn over the boards, and its edges are pared thin to avoid any unsightly appearance when completed. It is pasted to the boards with the greatest nicety and smoothness, and particular care is taken to turn in the corners neatly. In "half-bound" books, the backs and corners only are covered with leather, and the main portion of the sides with marbled paper or cloth The best kind of books are made to open with what is termed a "hollow back;" an ornamental "head-band" is added, and raised "bands" are formed by strips of cord glued across the back. The edges are then "sprinkled," "marbled," or gilt. Without dwelling upon these matters of detail, we may proceed to notice briefly the third stage of bookbinding,—that of "finishing" or decorating, in which the taste of the artist is called into

requisition. The lettering, fillets, scrolls, arabesques, and other ornaments which constitute the external decoration of books, are impressed upon the leather in the desired patterns by brass tools, which are slightly heated to render the impression lasting. Fillets and running sprigs are engraved in relief upon the edge or periphery of a brass "roll," and this being wheeled carefully over the surface of the book, with the necessary pressure, leaves a corresponding indented pattern. In elaborately ornamented books many hundreds of separate tools may be employed. Where the pattern is not gilt, the operation is called "blind tooling." To apply the gold-leaf, it is necessary to prepare the leather with size and white of egg; the gold is lightly laid upon the surface, and the pressure of the tool causes it to adhere to the pattern, the superfluous particles being rubbed off. The beautiful illuminated appearance shown in Mr. Batten's elegant specimen is produced by what is termed *inlaying*, which consists in attaching to the surface of the book small pieces of differently-coloured leathers, which are pared extremely thin for the purpose.

Reserving for the present a notice of the cloth and embossed bindings which have recently proved so successful, we must now briefly allude to the history of ornamental bookbinding. The ecclesiastics of the Middle Ages bestowed upon their exquisite illuminated manuscripts a corresponding splendour of external decoration. Carved oak and ivory were used for their covers, and these were elaborately ornamented with gold, silver, and enamels, and frequently enriched with pearls, rubies, and other precious stones. As we shall hereafter engrave a gorgeous book-cover, assimilating in its character to those of the Middle Ages, we shall take another opportunity of describing their extraordinary magnificence.

Richly-coloured velvets, vellum, calf and morocco leather, were used for covers at an early period, but bookbinding in the ordinary sense of the word, *i.e.* of a leather cover for a printed book, may be assumed to date from the invention of printing. In an able essay by Mr. Joseph Cundall on "Ornamental Art as applied to Ancient and Modern Bookbinding," read to the Society of Arts on the 10th of November, 1847, the author observes that "there are many printed books still in good preservation that were bound in calf with oaken boards at the end of the fifteenth and beginning of the sixteenth centuries. In England, the earliest binding with ornament was about the time of Henry VII., when we find the royal arms, supported by two angels, the heraldic badge of the double rose and pomegranate, the *fleur-de-lis*, the portcullis, the emblems of the Evangelists, and small ornaments of grotesque animals." In a statute of Richard III. (1483) it is expressly recited, that there were then "a great number of the king's subjects living by the craft and mystery of binding of books, and well expert in the same." About 1538 Grafton undertook to print the Great Bible, and for that purpose brought from Paris not only printing-presses, type, and printers, but bookbinders also; and when it is remembered that there were seven large editions in folio of the sacred volume within three years, it is obvious that the binding of them would alone suffice to give importance to the art.

Mr. Cundall states, that the stamping of tools in gold appears to have been first introduced in this country in the reign of Henry VIII.; and some beautiful rolls, probably from Holbein's designs, were used, as well on the sides as on the gilded edges of books still in existence. The sides of books of the period now under our consideration were generally of oaken or beech-boards, covered with leather, and furnished with metal bosses at the angles. They were sometimes embossed with figures of saints in niches, and occasionally with foliage in the intervening compartments. Heraldry is occasionally introduced, and the designs display considerable ingenuity. They generally cover the whole of the field; the division of the side into centre and margin being of Italian origin.

With the reign of Elizabeth and her learned successor considerable luxury was introduced in bookbinding, and many an old volume of that period still attests the skill of English binders. The Great Rebellion impeded the progress of the art; but after the Restoration, renewed energy was infused into it. The fashions of the Continent were then freely introduced, and imitations of the most celebrated Italian and French bindings were executed with great dexterity. Lighter covers superseded the cumbrous wooden ones before used; gaily coloured leathers were employed; gilding took the place of the simple relieved work of the ordinary monastic binding. Contemporary with the formation of Sir Thomas Bodley's and other celebrated libraries, a marked improvement in the art was manifested; and the good preservation of those collections may be mainly attributed to the care bestowed upon their binding.

It is not, however, till we approach comparatively modern days that the names of the best workmen have been preserved to us; and the earliest that we are enabled to cite as displaying any special taste is that of Roger Payne. In our next article on the subject we shall notice the works of this celebrated bookbinder, and complete our historical sketch of the art both in this country and in France and Italy.

JUSTYNE. DEL.

M. DIGBY WYATT. DIREXT.

F. BEDFORD. LITH.

BOOKBINDING IN MOROCCO AND INLAYING BY BATTEN OF CLAPHAM.

LONDON, PRINTED AND PUBLISHED APRIL 1ST 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE LIII.

ANDROMEDA,

A STATUE IN BRONZE, BY JOHN BELL OF LONDON, CAST BY THE COALBROOKDALE COMPANY.

AMONG the numerous British sculptors who contributed to the Great Exhibition, few manifested more untiring industry or better taste than the author of the statue now engraved. It may be truly said, that the life of an artist is best written in his works; and fortunately, if in no other respect, Mr. John Bell has furnished us in his productions with ample materials for his biography. The varied nature of his works affords an admirable picture of the versatile genius of their producer. While such efforts as the "Eagle Slayer," and the statue of "Falkland," prove his lofty appreciation of the vigorous and the sublime, his well-known "Dorothea," the "Babes in the Wood," and the figure which we now engrave, show that he leans also to "the soft side of the heart," and possesses the happiest feeling for the graceful and the picturesque.

Mr. Bell's practical efforts to introduce a higher style of design and modelling into the productions of the great manufacturing establishments of the country, have, in many cases, been crowned with very remarkable success; and if a collection could be made of the various objects over which his teeming imagination and skilful hand have cast the witchery of beauty, they would alone suffice to form an exhibition of great interest and value.

It is fortunate for Mr. Bell that his efforts for the improvement of art-manufactures have been so admirably seconded, by those to whom he has consigned the carrying out of his ideas. For instance, it would be difficult to find a specimen of bronze-casting more ably executed, or more entirely free from defects, than the statue and its pedestal which we now present to our readers, and which represents one of the favourite themes of imaginative art;—the unfortunate, yet fortunate, Andromeda. While, therefore, a high meed of praise must be awarded to Mr. Bell for the talent he has displayed in this composition, we must at the same time recognise the skill with which the processes of founding have been carried out by the Coalbrookdale Company, and the dexterous manipulation of the chasers whom they employ.

In one respect the subject of our engraving offers a valuable suggestion, which it is desirable that the artists of this country should generally appreciate. We allude to the congruity which exists between the statue and its base. In the ornaments of the pedestal, not only the story itself, but its instructive moral, are effectively told. The little Cupids who triumph over the Dolphins, recall the source from which the demigod derived the strength and courage which enabled him to subdue the Minotaur; in whose destruction the poet conveys only an expression of Love triumphing over difficulties and dangers. The introduction of the Medusa's head, the shells, and other accessories, gracefully identify the pedestal with the statue it supports. The more common mode of carrying out the connexion which Mr. Bell has so ably realised, would have been by the simple insertion, around the base of the pedestal, of bas-reliefs representing the actual incidents of the legend; but in that case it would have been difficult to obtain the pyramidal line, which so well leads up to the vertical *pose* of the figure.

Mr. Bell's productions exhibit in a striking degree the ordinary characteristics of the English school of sculpture, the forms of which appear to be governed rather by a tasteful selection from fine natural types, than by a system of idealising, with a view to the elimination of an imaginary perfection of form. While,

therefore, in English sculpture, the refinement of Greek art may be occasionally wanting, we are never chilled by the presence of a perfection which we know does not exist in nature: and thus it is satisfactory to observe that, although occasionally defective in their embodiments of ideal force and grandeur, our native sculptors rarely fail to delight us by a sweetness and elegance of outline and modelling, which constitute the great charm of their productions.

When we recur in memory to the great names by which English sculpture has been dignified, and through whose influence its school has been formed, we perceive among them, even at the outset, the elements of remarkable originality. The genius of Evelyn, tutored as it had been, by long residence in Italy, to a fashionable admiration of the frittered graces of the school of Bernini, could yet recognise the freedom and talent displayed in the earliest works of Grinling Gibbons. Although the scope of this artist's efforts was, to a great extent, confined to works of a cabinet character, we still find so marked and independent a style in everything which he touched, that, so far as we have been enabled to observe, there does not exist in any other country a series of productions at all assimilating to those of Gibbons.

Through the influence of Cibber the gods and goddesses of Rome were imported into the stiff and stately gardens of the middle and latter part of the seventeenth century. When, however, that artist emancipated himself from the traditions of Lower Roman art, he manifested a genius and power of expression which has rarely been surpassed. In his two celebrated figures of Madness and Melancholy, he evinced a power which was never attained by his more skilful successor, Roubiliac. The latter, although perhaps seldom excelled in handling the chisel, has a certain dramatic mannerism, which impairs the effect of his most ambitious compositions. Thus, although some portions of his celebrated monument to Mrs. Nightingale exhibit the most consummate skill, the whole of that work is characterised by a frantic action, which it would transcend the power of the most accomplished artist to realise in a dignified manner. It was in his busts that the greatest success of Roubiliac was attained.

Wilton, who occupied a prominent position in the profession after the middle of the eighteenth century, was rather a skilful manufacturer than an able artist. Facility rather than excellence stamps the character of his works.

In William Banks we perceive the germ of that poetic taste which was afterwards carried to such remarkable perfection by the immortal Flaxman. Though by no means a prolific artist, still in his bas-reliefs, and in several of his statues, Banks displays a tenderness of fancy and a beauty of execution which were scarcely equalled by any contemporary sculptor in Europe. There can be no doubt that his exquisite monument to the only daughter of Sir Brooke Boothby, in Ashbourne Church, Derbyshire, suggested those graceful monuments of a somewhat similar character which, at a later period, reflected so high a degree of credit on the reputation of Stothard and of Chantrey.

It was, however, rather to the genius of Joseph Nollekens, than of Banks, that Chantrey was indebted for a model and an instructor. Few men understood better than Nollekens the conventionalities which were necessary to insure a lively expression of vitality in his busts; and it would be difficult to find, among the most celebrated works of antiquity, any representations of an iconic character more replete with life and intelligence than the works of this artist.

In the more ornamental departments of the art John Bacon occupied an important position. His numerous monuments to our English worthies display versatility of mind and a ready hand. It is rarely, however, that we can find in his works any marked departure from the traditions of commonplace. It was unfortunate for Bacon that the allegorical style in sculpture was so popular during the latter part of the eighteenth century. Had the public taste led him to adopt a severer style of composition, it is probable that his talents as a ready modeller might have produced more valuable memorials.

Notorious as the notices of Horace Walpole and of Allan Cunningham have made the reputation of Mrs. Damer, we fear that their pens have carved for her a more worthy and enduring monument than her own chisel could ever have produced. There is, however, manifested in her works, as in those of the various masters we have enumerated, a marked originality, which distinguishes English productions in sculpture from those of the contemporary French and Italian schools.

In a succeeding article it will be our pleasing duty to trace still farther the developement of this originality, in the works of the various artists whose precept and practice may be regarded as the profession of faith of the English sculptors of the present day.

J. CLAYTON. DEL.

M. DIGBY WYATT. DIREXT.

F. BEDFORD. LITH.

"ANDROMEDA"_A STATUE IN BRONZE BY JOHN BELL OF LONDON.
(CAST BY THE COALBROOKDALE COMPANY.)

LONDON. PRINTED AND PUBLISHED APRIL 15TH 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE LIV.

A LOOKING-GLASS FRAME, CARVED IN EBONY,

FROM CHINA.

The interesting object we now present to our readers, at once transports us to the mysterious region in which so many of the useful and ornamental arts first had their origin. The country in which the art of printing, the use of gunpowder, and of the mariner's compass, the manufactures of silk and porcelain, have been prevalent from the earliest ages, must ever command our respect and excite our curiosity.

Except from the vague reports of Marco Polo, Purchas, and some few other travellers being for the most part Jesuit missionaries, and from the minor productions which occasionally reached Europe, little was known, until the present century, respecting Chinese art and industry. The celebrated architect of Somerset House, Sir William Chambers, it is true, on his return from China, more than a hundred years ago, endeavoured to reproduce in England the architectural forms which had made a strong impression on his fancy, during his residence as a young man in that country. In 1757 he published a folio volume of "Designs of Chinese Buildings, Furniture, Dresses, &c., engraved by the best hands," from his own sketches and measurements. The Pagoda in Kew Gardens was erected from his designs in 1762, and in the following year he published another folio volume of "Plans, Elevations, Sections, and Perspective Views of the Gardens and Buildings at Kew." Sir William's knowledge of Chinese art was, however, very limited; and by adopting too readily the information given to him by others, he incurred not only severe lampooning by anonymous writers, but the graver reprobation of Lord Macartney; whose embassy to China tended more than any previous event to enlarge our acquaintance with the productions of that extraordinary empire. That expedition led to the publication of the valuable works of Sir George Staunton and Mr. Barrow; and the restrictions which so long excluded Europeans from all intercourse with the Chinese having at last been removed, much valuable information has been diffused by the works of Mr. Clarke Abel, Mr. Davis, Dr. Gutzlaff, and many others.

In examining the characteristics of Chinese ornamental art, it is difficult to discover what classes of natural objects have been selected, as suggestive of the conventional treatment adopted by the designers; since, in almost every article produced, the leading outline rarely recalls anything more refined or elevated than the rare fat Josses, and singular monsters of the old dragon china. The highest effort of the artists appears to have been directed to the accumulation of eccentric and bulbous scrolls and nodules, together with intricate and elaborate geometrical patterns. In this latter variety of design, they display considerable ingenuity and dexterity. Proverbial for their skill in direct imitation, and minute and careful copying, the Chinese are eminently successful in the representation in colour of fishes, birds, insects, flowers, foliage, and similar objects; and the taste with which they apply such ornaments to variously-moulded surfaces indicates great refinement of perception, if not fertility of imagination. Mr. Barrow observes, that "their works of sculpture are defective in form, attitude, and proportion. They have, indeed, the art of cutting stone, wood, and ivory, remarkably sharp and clean; but their productions are sometimes distorted and unnatural." As the probable cause of the deformity of their representations of the human figure, the same writer dwells upon that aversion to the practice of anatomy, which the Chinese carry to a remarkable extent.

Within the last ten years the artistic productions of China have been rendered familiar to us by the collections which have been brought to England, and in the Great Exhibition of 1851 they were presented to

us in a striking and very favourable point of view. It would be superfluous, in the present notice, to dwell upon the skill of the Chinese as workers in porcelain and metal, or upon their ability as carvers of ivory and hard woods: the former is proverbial; and the latter is sufficiently demonstrated by the beautiful concentric balls and elaborate chessmen in those materials, which have so long been popular marvels of dexterous execution. In future articles we shall have occasion to notice the bronzes and enamels of China, and the admirable vases which they form in that rare and beautiful material,—jade-stone. At present we may limit our remarks to the perforated carving so profusely employed in China, of which the accompanying Plate supplies a favourable specimen.

"Fret-work," says Sir Wm. Chambers, "so common in the buildings of the ancients, is likewise very frequent in those of the Chinese;" and our earliest recollections of the "willow-pattern plate" illustrate its constant occurrence in their domestic architecture. Screens, lattices, porticoes, and verandahs of perforated woodwork, abound in all the edifices of the Celestial Empire. Of these the commonest assume rectangular forms, whilst the more costly and elaborate are diversified by figures of animals, birds, flowers, and fruits; the whole being coloured and gilt in a gay and rich, but, at the same time, harmonious manner. The Rev. G. N. Wright, author of the literary illustrations of "Allom's Views in China," observes that "the walls and ceilings of the dining-parlour are always decorated with fretwork, carved designs in hard woods, and brilliantly-coloured paper-hangings." He adds that "the fronts of the principal apartments are open to the air, with the exception of a lattice-work, which is gilt and brightly painted." To the same effect Sir William Chambers states that "the bottom or farther end of the room is entirely composed of folding-doors, the upper part of which are of lattice-work, with painted gauze, which admits light into the bed-room. These doors are neatly made of wood, having several characters and figures on them, and are sometimes richly varnished in red, blue, yellow, and other colours."

The skill of the Chinese carvers finds constant employment in the decoration of cabinets, book-cases, tables, frames (such as that which we engrave), stands for vases, figures of animals, and an infinite variety of ornamental objects; and it is exercised alike upon pearl, ivory, ebony, and various kinds of wood. In illustration of the taste and industry of these artists we may especially mention two articles, which may be remembered in the Chinese department of the Great Exhibition:—"A bedstead of curious and finished workmanship, inlaid with ivory and mother-of-pearl;" and "A sideboard in carved wood, inlaid with ebony and incrusted with ivory, with eight elaborately-carved panels in yellow wood, representing trees, fruit, and animals."

The windows of Chinese buildings are sometimes merely round or oval openings in the walls, with carved and gilt perforated frames. Others are formed by thin plates of pearl, horn, paper, silk, or gauze, and divided into panes of various shapes by wooden frames. Some of these present ingenious and tasteful patterns, recalling to the mind, though with less happy effect, the perforated windows of India and Tunis; of the latter of which we have already given an illustration.

With respect to the materials of which Chinese mirrors are ordinarily made, we may observe that glass is still a comparative rarity in the interior of the country. Sir George Staunton, in his account of Lord Macartney's embassy, informs us that "there is no manufacture of glass in China, except at Canton, where, instead of fusing the rough ingredients, the manufacturer is satisfied with only melting broken pieces of that material and forming it into new shapes. The glass beads and buttons, of various forms and colours, worn by persons of rank, are chiefly made at Venice, and this is one among the remnants of the great trade which the Venetians formerly carried on with the East." Spectacles are made of rock-crystal, cut by a rude process into thin laminæ; and although glass is sometimes used for the lanterns so common in the empire, sheets of paper, pearl, horn, or mica, are far more generally employed.

Ancient metallic mirrors, common in China before the introduction of glass, have been exhibited in England; and polished steel is still used there for the same purpose. In Mr. Allom's work, already mentioned, there is an engraving of the Boudoir and Bedchamber of a lady of rank; in reference to which it is observed, that "glass mirrors have long been in use in China, although little progress has been made in the art of glass-making generally, the manufactures of Europe being largely imported. These chambers are often resplendent with looking-glasses, in some of which the external landscape and the passers-by are distinctly seen by the fair inhabitants, without the trouble of rising from their couches. The mirrors are of very thin and inferior glass, scarcely thicker than good English writing-paper, but are skilfully coated with an amalgam which renders them abundantly truthful in reflecting the features."

M DIGBY WYATT, DIREXT

H RAFTER DELT

F BEDFORD, LITH

A CHINESE LOOKING GLASS IN CARVED WOOD FRAME

LONDON, PRINTED AND PUBLISHED APRIL 15TH 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE LV.

STOVE IN WHITE PORCELAIN,

BY HOFFMAN OF BERLIN.

In spite of the complacency with which all Englishmen habitually regard their own *fireside*, it has been frequently urged, and almost as frequently admitted, that there is scarcely any country in Europe in which the management of a *fire* is so popularly misunderstood. The quantity of heat commonly wasted by allowing the smoke and heated gases to escape without taking the slightest advantage of their caloric;—the pains usually bestowed on making the register opening (if there is one) sufficiently large not only to carry off the products of combustion, but to drain the room of its fresh air, and create a perpetual draught as well;—the provision made for keeping the lower parts of the chimney cool, so as to check the proper action of the draught and encourage the precipitation of soot,—all contrast most unfavourably with the ingenious and economical devices by which the Germans extract and utilise the heat-giving properties of their fuel, and at the same time benefit their health and their pockets: the former, by abolishing the chilly and insidious currents which in England so constantly induce rheumatism and catarrh; and the latter, by obtaining the greatest amount of comfort out of the smallest possible quantity of combustible matter.

The common German Stove is a very clever piece of contrivance. It usually consists of a large rectangular erection, formed of tiles about six or eight inches square, glazed on the outer face, and having a projecting rim all round the inner face of each tile; this allows of the tiles being built up like bricks set on edge, and they are held together by pieces of wire passed through corresponding holes in the rims of adjoining tiles. In constructing a stove of the common sort, a base rather less than a foot high is first formed with brick-work set in clay, and cased with the glazed tiles; a small space being left for the ashpit. On this base the fire-box is built with tiles and firebricks, and the outer enclosure of the stove is then carried up to the desired height with the glazed tiles, all the joints being closed with prepared clay. In order to prevent the smoke and heated air from the fire from passing off too rapidly into the chimney, the interior of the stove is subdivided by horizontal partitions formed with large flat tiles, which are supported by the projecting rims of the tiles forming the outside. The ends of these horizontal divisions being allowed to communicate alternately on one side of the stove and on the other, a continuous flue is formed, through the whole of which the smoke must gradually rise before it reaches the outlet to the chimney. In order to prevent the escape of the smoke through the joints between the tiles, the whole of the interior of the stove is well plastered with clay, which must be allowed to dry very gradually in the first instance; and then, by the action of the heat, it acquires a great degree of hardness, rendering the whole stove a very solid structure. The fire-box is generally large, as the fuel used is either wood or peat; and when once the fire is lighted in a stove, the fire-box is completely filled with fuel, so that a very great heat is speedily produced in the interior of the stove. The door being closed, air is only admitted in very small quantities to maintain combustion, so that but little fuel requires to be added subsequently. The non-conducting nature of the material of the stove causes the heat to pass but slowly from the inner to the outer surface, and thence into the room: consequently, the temperature of the outer surface of these stoves does not rise much above blood-heat; thus avoiding the vitiation of the air by its contact with highly-heated surfaces, as is generally the case with iron stoves.

The stoves of a superior class, for the manufacture of which Berlin has acquired a high reputation, do not differ in the principle of their construction from the common ones just described; but the tiles of which they are formed are of larger dimensions, and are moulded to a variety of forms, so as to make up stoves of elegant design. Care is always taken not to have any joints at the projecting angles of the stove, and in other parts they are so introduced as not to be conspicuous, and thus the stove has the appearance of consisting but of one piece. The mode of joining and securing the tiles in their place is the same as that already described. In these stoves the direction of the smoke channel necessarily depends upon the external form and design, so that frequently an alternately ascending and descending direction is given to the smoke, instead of allowing it to pass through horizontal passages. When stoves of this construction are intended to heat with coal, which is rarely the case in Germany, it is necessary to introduce small soot-doors to clean out the interior of the stove; but this is not required with the fuel in common use.

Stoves constructed of unglazed substances, such as inferior earthenware or terra-cotta, were common in Germany up to the end of the last century, but of late years they have been almost entirely superseded by those made up of *glazed* tiles. It was found not only that the glaze protected the surface of the object, rendering it much harder, but that, while it provided for more easy cleansing, it at the same time radiated more heat, and was thus both more economical and more ornamental than the old-fashioned article. At first the glaze was applied to objects executed in common clays of coarse "body," either black or of some dark colour, such as slate or deep red; but more recently fine earthenware, with a coating of a pure white hue, and protected by a colourless vitreous glaze, has been gradually taking the place of all other inferior materials.

The great perfection to which the manufacture of this article had been brought in Prussia was for the first time publicly manifested at the Great Exhibition of Industry which took place at Berlin in the year 1844. A large collection of beautiful specimens was contributed to that display, and evidence was given that the manufacturers of the capital and its suburbs were far in advance of those of the Prussian provinces generally, and indeed of the rest of Germany.

In the Official Report of the Exhibition above alluded to, the productions of Messrs. J. F. Putsch, C. Hanisch, H. Petri, Cornelius Gorman, Ungerer, and particularly of T. C. Feilner and Co., are comprised under the more favourable list, and are honourably though briefly mentioned. The last-named house is to be especially regarded as occupying a prominent position in the history of the manufacture, and as having materially assisted in its developement and consequent extension. This firm was established about thirty years ago by the late M. Feilner, to whom the credit may be awarded of having been among the first in Berlin who studied to combine elegance with utility in all the different branches of the potter's art. This happy union especially gained for his productions a sale not only throughout Germany, but in foreign countries as well. His success must in great measure be attributed to the assistance he derived from the universal talents of Schinkel, who supplied him with both advice and designs. Since the death of M. Feilner, the manufactory which he established has been carried on by Messrs. Zimmermann and Friese, on the same principles which originally procured its celebrity: those of seeking constantly the co-operation of the most distinguished artists and designers.

In the above-mentioned Report particular allusion is made to a large stove in the Renaissance style, executed by this firm for the Royal Palace at Hanover; and the manner in which the peculiar difficulties presented by the elaborate ornamental forms of the style were surmounted is spoken of with great praise: the evenness and purity of the white glazing being also alluded to as deserving particular notice. This firm has not confined its operations to the manufacture of stoves, but has produced also, with considerable success, various architectural ornaments—such as candelabra, consoles, columns, &c.—suitable to be introduced into the buildings of that great metropolis of brickwork and stucco, Berlin.

It is to be noticed, that this branch of industry is almost entirely confined to the north of Germany, and more particularly to Prussia, which was the only state the earthenware stoves of which were represented at the Zollverein Exposition of 1844.

In addition to the manufacturers of Berlin to whom we have alluded, the Report mentions several provincial houses, on the productions of which it lavishes many paragraphs of encomium. Among these are Messrs. J. Ackermann of Vetten; G. Oehler of Erfurt; Poehle of Bunzlau; C. W. Schubert and Son of Breslau; and S. Szerbynsky of Czarnikau.

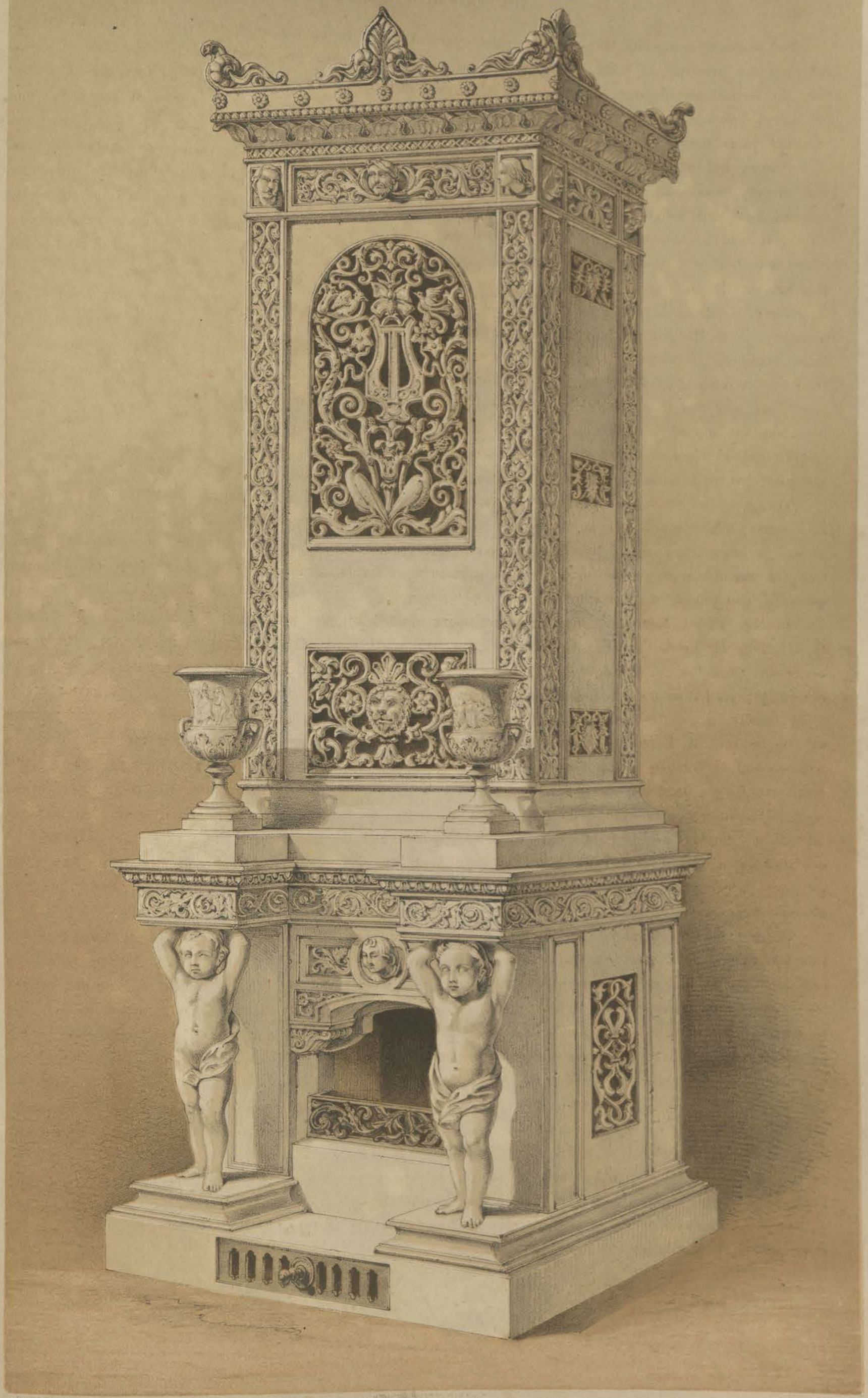


PLATE LVI.

INDIAN EMBROIDERY, IN WHITE SILK UPON BLACK NET,

FROM DACCA.

In our last article on the productions of Dacca (Plate XLVIII) we promised to continue the subject by a notice of the needlework applied to their embellishment; and we cannot better fulfil that promise than in connexion with the beautiful object which is represented in the present Plate. We shall again avail ourselves of the recent "Descriptive and Historical Account of the Cotton Manufacture of Dacca," by Mr. James Taylor, who observes, that "the art of sewing in Bengal is almost entirely confined to the Mahomedan portion of the community. It is not practised among the Hindoos, except by a few persons, chiefly females, of the cast of *dhobee;* and it is a branch of industry in which they do not display any skill. Indeed, so little acquainted are the Hindoos with the use of the needle, that Dr. Buchanan states he is not aware of any Hindoo word for sewing, except that used for passing the shuttle in the act of weaving."

"Fine needlework or embroidery," as Mr. Taylor remarks, "appears to have had its origin in Egypt. The Israelites there learned the art, and excelled in it before they settled in the land of Canaan; and the Phœnicians and Greeks derived their knowledge of it from that country, and were the means of diffusing it among the nations of the West. It appears to have been extensively practised in Mesopotamia about the end of the ninth century. Embroidery is, indeed, an art for which that country has always been celebrated; and it is probable that from the banks of the Euphrates it was first introduced into Bengal."

Among other proofs that the Indian embroidery was originally derived from Mesopotamia, Mr. Taylor dwells upon the fact already mentioned, that the art is practised in Dacca only by Mahomedans,—the Hindoos confining the exercise of their wondrous skill to spinning and weaving. He also alludes to a tradition, that the needles formerly used at Dacca were procured from Bassora. "The different branches of needle work in India are chiefly practised by men, and are carried on as distinct trades. *Silai* (sewing) affords employment to a large body of *durzees* (tailors) of Dacca, who prepare a variety of turbans; skull-caps; jackets, with loose sleeves and open cuffs; long close garments, worn like shirts; double-breasted gowns, having the skirts plaited with folds; and bodices, spencers, and petticoats for females."

In reference to one of the most curious branches of Indian needlework, Mr. Taylor observes, as Moorcroft and other travellers have before him, that in "*rafu-gari,* or darning, the Mahomedans display a degree of manual dexterity almost equal to that exhibited by the Hindoos in weaving. An expert *rafugar* can extract a thread twenty yards long from a piece of muslin of the same dimensions, and replace it with one of the finest quality. This operation, which is called *choonae,* or picking out a thread, is generally done when a coarse thread is discovered in a web of muslin after bleaching. The *rafugars* are principally employed in repairing cloths that have been injured during bleaching, in removing weavers' knots from threads, joining broken threads, and forming the gold and silver headings on cloths. Most of them are addicted to the use of opium, and generally execute the finest work whilst they are under the influence of this drug. They constitute a distinct class, or Mahomedan guild. The number of their houses, or families, at Dacca is estimated at 150."

"*Zar-do-zi,* or embroidery," we are told by the same valuable authority, "is an art for which Dacca has

long been celebrated. Muslins, net fabrics, and woollen shawls and scarfs, are embroidered with silk, gold and silver thread, and with the wings (*elytra*) of the beetle. The silk which is used is both of the common and floss varieties, and appears to have been formerly an article of export; as the name of 'Dacca silk' is still given to one description of this material used for flat embroidery in England. The gold and silver thread and wire (*badla*) are of different sorts, and bear various names, according to the particular purposes to which they are applied." Of the mode of making this "badla" we have given a description in our notice of Plate XII.

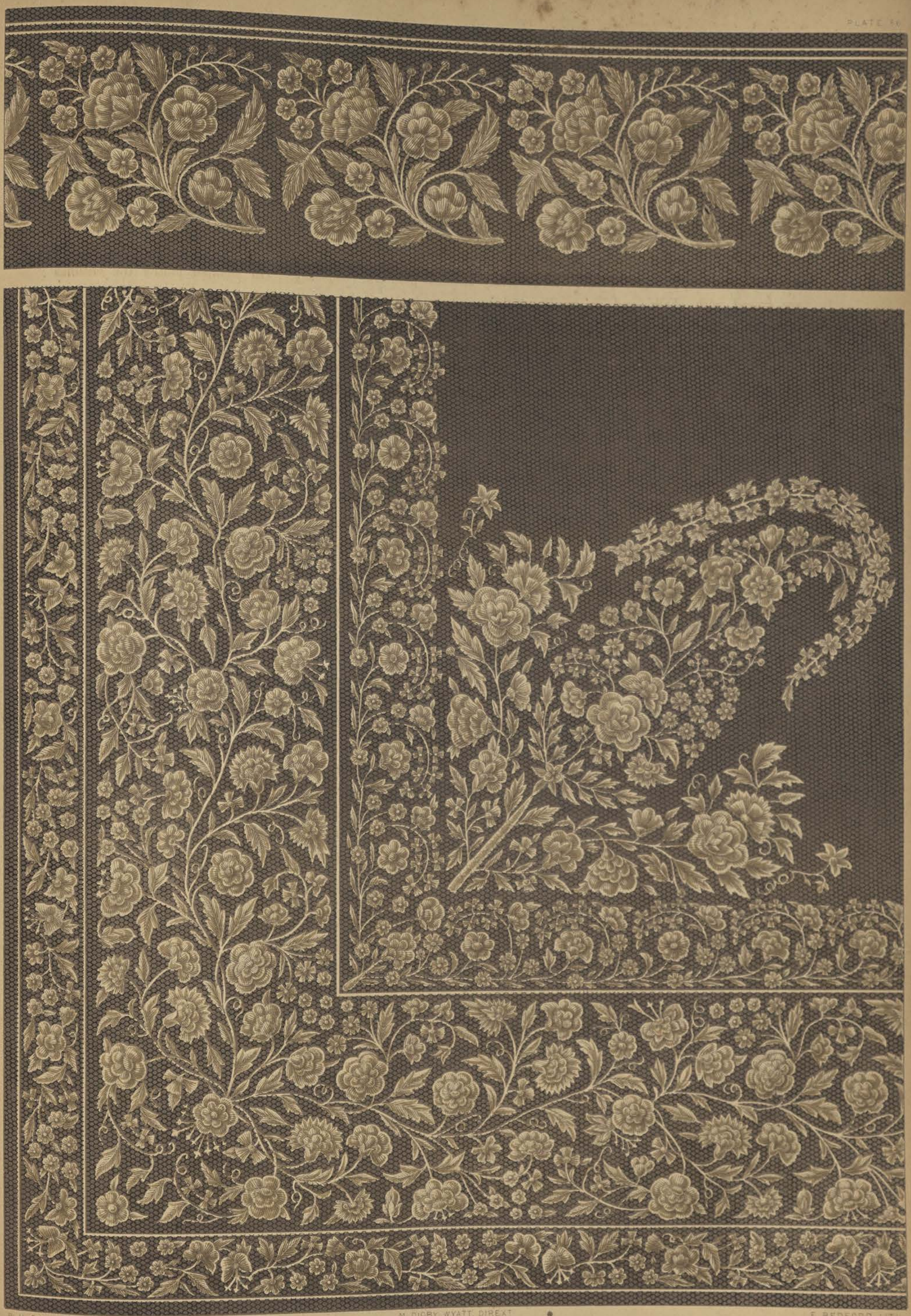
In the process of embroidery, "the cloth is stretched out in a horizontal bamboo-frame of rude construction, raised about two feet from the ground; and the figures intended to be worked or embroidered are drawn upon it by designers, who are generally Hindoo painters (*nuquash*). On woollen cloths the outlines are traced with chalk, and on muslin with pencil, and the body of the design is copied from coloured drawings. The embroiderers, seated upon the floor around the frame, ply the needle, which, it may be remarked, they do not draw towards, but, on the contrary, push from them, as is the case with all native sewers in India. In place of scissors, they commonly use a piece of glass or china ware to cut the threads. Like the darners, the embroiderers constitute a distinct society, or Mahomedan guild of artizans."

In our notice of Plate XXXVI., we offered some remarks on combinations of colour as applied to the decoration of plane surfaces. Those remarks were based in a great measure on the important conclusions enunciated by Mr. Owen Jones, in his valuable paper read before the Royal Institute of British Architects (15th December, 1850), on the subject of the decorations proposed for the Exhibition Building in Hyde Park. In briefly pursuing the subject, we shall again avail ourselves of that gentleman's most able guidance.

The combinations of colour generally prevalent in the Indian embroideries of the present day are peculiarly interesting, as preserving traditionally those simple arrangements by which the happiest effects of Mahomedan decoration were attained in those localities where the cultivation of the arts was carried to its highest pitch by the Moors. In the simple contrasts of the primary colours, occasionally mixed with the secondaries, the modern practice of India recalls, in many respects, the treatment of the architecture of the ancients. Mr. Owen Jones remarks that, "in the early periods, the prevailing colours used in decoration were the primaries, blue, red, and yellow; the secondaries appearing very sparingly. We find this to be the case equally in the remains of Nineveh, Central America, Egypt, and Greece, and throughout the vestiges of Eastern civilisation generally. We find also everywhere that, as time wore on, the secondary colours invaded the dominion of the primaries, and blue and red were supplanted by green and purple. In Egypt, in the temples built by the Pharaohs, blue, red, and yellow mainly prevail; whilst in those built by the Ptolemies green and purple take their place. In those of the Roman period the colours are still further degraded to a dull and incongruous muddiness. In the Greek temples, as far as we can gather from the few remains of colour, the same law prevails; whilst in Pompeii we find the secondaries and tertiaries to be the ruling harmonies. In the Alhambra, the blue and red of the Moors were painted over with green and purple by Charles V. and his successors; and with the worst effect. In modern Cairo, and in the East generally, we have green constantly appearing side by side with red, where blue would have been used in earlier times."

That tranquil spirit of content which leads the Indian races to refine upon what exists, rather than to change its nature, has induced a retention of the primitive scales of contrast, rather than a tendency to a degradation of tint, by the addition of lowered and broken hues. Thus it is that they appear to have avoided falling into that state of transition of taste which Mr. Owen Jones pictures as the cause of the degradation he has described. "It would seem," he observes, "either that the human mind, ever seeking for change, became weary of the simple harmonies which the primaries afforded, and sought more complicated effects from the secondaries and tertiaries; or, that this change arose from the decline of art and the incapacity of artists to deal with the primary colours in their pure state, which caused them to take refuge in the hues of the secondaries and tertiaries, in which error in the balance of colour was less fatal; although, to produce perfect harmony with the secondaries and tertiaries is, no doubt, much more difficult."

We cannot but feel, therefore, that a study of the systems of colouring now prevalent among the Mahomedan embroiderers of India, could not fail to throw considerable light upon the practice of the Moors generally, in the highest periods of their greatness; and that from the vivid colouring of the East we may learn to re-illuminate the fading beauties of the Alhambra, and the other monuments of the Western Mahomedan Empire.



P. H. DELLAMOTTE, DEL.

M. DIGBY WYATT, DIREXT.

F. BEDFORD, LITH.

INDIAN EMBROIDERY IN WHITE SILK ON BLACK NET.

LONDON, PRINTED AND PUBLISHED APRIL 15TH 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE LVII.

THE HUNTER AND PANTHER,

A GROUP IN MARBLE, BY JERICHAU OF COPENHAGEN.

One amongst the many remarkable features of the Great Exhibition was the opportunity it afforded to the English public of becoming acquainted with the excellence of the works of sculpture produced by the most distinguished foreign artists. The now familiar names of Kiss, Rietschel, Magni, Marochetti, Strazza, Jerichau, De Bay, and many others, were, for the most part, utterly unknown to the general public in this country until the great experiment of an international Exhibition brought some of their choicest productions to our shores. In former articles we have illustrated several of these admirable works, and have now the satisfaction of presenting to our readers a composition which we have no doubt is fresh in the memories of all.

In the excellent series of notices on the Great Exhibition which appeared last year in the columns of the "Morning Chronicle," not the least interesting were those devoted to the subject of the Fine Arts. The writer of those articles has carefully and impartially reviewed the works of sculpture displayed both by British and foreign artists, and thus adverts to M. Jerichau of Copenhagen, and especially to the group we now engrave:—"While we recognise more particularly in the drawings of this artist much of the vigour and imagination of his great master Thorwaldsen, we perceive in his finished works a too sedulous imitation of the antique, which occasionally degenerates into mannerism: but for this fault, his works would be among the best in the Exhibition. His 'Adam and Eve' is too direct a reproduction of classic models. The 'Hunter and Panther' is a magnificent composition. A young and graceful youth, active as a fawn and vigorous as a gladiator, holds in one arm a panther's cub, whilst the mother, enraged at the abstraction of her offspring, dashes savagely upon her foe. With a determination soaring above the pain inflicted by the claws of the animal, the hunter raises his arm to strike a death-blow to his ferocious assailant. The moment has been chosen when the victory is fairly balanced, and the instant of rigidity in every muscle, both of man and beast, prior to the renewal of the mortal strife, has been admirably seized. Like Gibson's 'Hunter,' this group forcibly illustrates the facility with which the true artist may select the appropriate moment when intensity of rapid action is implied rather than absolutely represented."

By the courtesy of Regner Westenholz, Esq., the Danish Commissioner, we have been enabled to procure the following particulars of M. Jerichau's interesting career. He was born in 1816 at Assens, a small town in the Island of Funen, in Denmark. His father, whose trade and small fortune had been destroyed by the financial crisis of 1814, died a few years after, leaving a widow with twelve children. Our artist having arrived at an age when it became necessary to select his future profession, his mother proposed that he should enter the Church, although we are told that he was not much inclined for serious studies. His artistic genius was displayed almost in infancy, and in his earliest years he often occupied himself in drawing or carving. His inclination for art becoming gradually more developed, his mother resolved to apprentice him to a house-painter; but, disgusted with the ordinary routine of the business, and mortified at the sacrifice of time, which he wished to devote to more elevated studies, Jerichau deserted his master before the completion of his apprenticeship, and repairing to Copenhagen, became a student in the Royal Academy of Fine Arts in that city. Supported by the small savings of his widowed parent, he applied himself with zeal and assiduity

to his studies, and soon made rapid progress, gaining several prizes and acquiring the esteem of his fellow-students, who consulted him in their works. Being, however, unsuccessful in one endeavour to obtain a prize, and distressed with the fear of becoming a burden to his mother, he resolved to go to Rome, in the hope of improving his position. A Danish frigate being ready to sail for Leghorn, to convey Thorwaldsen back from Italy to his native land, Jerichau obtained permission from the Government to embark in it, and arrived in Rome with only sixteen ducats in his possession. An artist to whom he had been introduced undertook to present him to his great countryman Thorwaldsen, who received him with a characteristic kindness which at once inspired him with a favourable omen of his future success. He continued to work and study diligently; but, in spite of strict economy, his small means soon became exhausted. The benevolent Thorwaldsen had quitted Rome; and, disappointed in the aid he had expected from Denmark, he even, in his extreme distress, contemplated suicide. Fortunately, his immediate wants were relieved by two young German artists, and he was again enabled to prosecute his labours. The Academy at Copenhagen having received some of his compositions, recommended him to the royal bounty, and the Queen of Denmark commissioned him to execute a frieze representing the marriage of Alexander and Roxana. This, which was exhibited at Rome and much admired, led to a commission for a "Penelope" from Mr. Abendroth, of Hamburg. A colossal group of "Hercules and Hebe" was his next important composition, and this he is now executing in marble for the Royal Palace at Copenhagen. Much as the last-mentioned group was admired, the artist did not escape criticism, being in fact charged with a direct plagiarism of the celebrated torso; an accusation which he repelled by exhibiting his group side by side with a cast of the antique model. However triumphant the result, Jerichau for a time abandoned subjects of mythology and ancient history; and his most successful romantic composition has been the "Hunter and Panther," now engraved; of which the artist has executed duplicate copies in marble for Prince Gallentin of St. Petersburg, and Baron Hambro of London.

In 1846 he married Elizabeth Baumann, whose paintings have acquired much celebrity, and one of whose works is in the possession of the Marquess of Lansdowne. In 1849 he returned to Denmark, after an absence of many years, and was immediately appointed Professor of Sculpture in the Royal Academy. Besides the works we have already mentioned, and the group in the Great Exhibition of "Adam and Eve weeping over the fall of Man," Jerichau has executed a colossal statue of Christ, for the Princess Albert of Prussia; "The Angel of the Resurrection," for Ritzenberg, and afterwards for the King of Denmark; and a sepulchral monument to Mademoiselle Almee de Göethe.

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THE HUNTER FIGHTING WITH THE PANTHER. A STATUE BY JERICHAU OF COPENHAGEN.

LONDON PRINTED AND PUBLISHED MAY 1ST 1852 BY DAY & SON LITHOGRAPHERS TO THE QUEEN

PLATE LVIII.

VASE AND DISH IN PARIAN,

BY MINTON OF STOKE-UPON-TRENT.

Few among the many novelties in art-manufacture introduced within the last ten years have been more pleasing or interesting than the ceramic material known under the various names of parian, statuary porcelain, and carrara, each of which is essentially the same.

Since the priority of introduction of this material has been a matter of debate between those connected with the establishments of Messrs. Minton and Co. and Mr. Alderman Copeland, we can scarcely be expected to decide "where doctors disagree;" but we may at least recognise that, at the present time, both the above-named gentlemen are entitled to the highest praise for the energy and success with which they have employed their respective materials. Mr. Minton has brought what he terms "parian" to an exquisite consistency; and has succeeded, by means of it, in producing a remarkable variety of useful and ornamental objects.

The white biscuit figures of Meissen, Sèvres, Berlin, and Derby, have long been known and admired. The material in which they are executed is, indeed, peculiarly well adapted to the reproduction of cabinet sculpture. Biscuit may be defined as hard porcelain, once fired, and unglazed. As at present employed by Mr. Minton, parian is a highly-vitrified, hard, bisque porcelain; much more so, indeed, than either the stone or old jasper ware of Wedgewood, the old stone ware made in the Potteries thirty years ago, or the hard bisque porcelain of Sèvres, Meissen, or Berlin. It is superior to the bisque china formerly used for ornamental purposes and statuettes, inasmuch as the latter had a dry, chalky, and occasionally bluish, appearance, from which the new material is exempt.

The mode of producing figures and other objects in parian is one of peculiar interest, and of extreme delicacy. Unlike the ordinary objects of pottery and porcelain—which are formed entire by the wheel, or by the hand of the modeller, and afterwards fired—articles in this material are made from what is termed "slip," being the fluid mixture of clay and flint, reduced to the consistence of cream; that degree of fluidity being necessary to ensure the perfect mixture which is essential for the subsequent mutual chemical action in the fire. The complete object is moulded in several parts, which, when united and dried, undergo successive firings; by the operation of which, and in the process of drying, they shrink to three-fourths of their original size. The judgment necessary in the first instance to anticipate this excessive shrinking, and the extreme care required in fitting the various parts together, render the manufacture one of great difficulty; and but for the ability displayed by our skilful and tasteful manufacturers, the material could never have been brought into general use. The early experiments were not only discouraging, but would have been ruinous to any producer of limited means.

With this general intimation of the difficulties attending the production of works in parian, we proceed to abridge the following minute description of the process from Mr. Robert Hunt's valuable "Hand-book to the Great Exhibition." "The material is used in a liquid state, technically termed 'slip.' It is poured into the moulds forming the figure or group, which, being made of plaster, rapidly absorb a portion of the moisture, and the coating immediately next the mould soon becomes of a sufficient thickness for the cast, when the superfluous slip is thrown back. The cast remains in the moulds for some time at a high

clavicord, was provided at the hinder end with a little brass wedge, that struck the string when the front end of the key was struck down. To improve the tone elicited from the string, the brass wedge was superseded by a quill, and the instrument then acquired the names of the virginal and the spinet. As a still further improvement, it was proposed to have two strings to every note, so as to increase the volume of sound. This involved a considerable increase in the complexity of the mechanism, and the improved instrument, under the name of the harpsichord, was in high repute during the greater part of the last century. At length occurred the happy thought of dispensing with the quills, and using little wooden hammers covered with leather, as a means of eliciting the tones of the strings; a modification which gave rise to the modern pianoforte, so named from the power of the instrument in producing *piano* and *forte*, or soft and loud effects."

There appears to be some uncertainty as to the individual by whom the scientific application of the hammer to these instruments was made. Authorities have disagreed as to the different amount of merit to be assigned to Marius of France, Cristofali of Florence, Padre Wood of Rome, or the celebrated organist and theorist, Schroeter of Germany; all of whom appear, at the commencement of the last century, to have proposed the adoption of a system of hammers, either suspended over, or held beneath, the strings. We are told, however, by M. Fétis, that all their inventions were entirely forgotten when Silbermann first executed, in Germany, about a century ago, the small pianos which subsequently served as models for all instruments of the kind.

Mr. Pole, in his admirable comments on the "Musical Instruments of the Great Exhibition," in Newton's "Patent Journal," states that "the first authentic notice of the instrument which he has been able to discover is in connexion with the visit of the celebrated musician, John Sebastian Bach, to Frederick the Great, king of Prussia, in 1747, three years before that illustrious composer's death. The king had been so much pleased with certain '*forte-pianos*,' manufactured by Silbermann of Freyburg, that he bought them all up, to the number of fifteen, and placed them in different rooms in the palace. When Bach arrived, the king gave up a concert about to take place, and spent the evening in hearing the great man play on these '*forte-pianos*;' and it was on this occasion that his majesty gave Bach the subject of the well-known 'Musikalisches Opfer.' It is said that the instruments are,—or were, a short time ago—still existing on the premises; but it is probable they did not subsequently answer the king's expectations, for it is on record that a harpsichord of the best kind was made to his express order eighteen years afterwards, namely, in 1765, by Tschudi, the predecessor of the present firm of Broadwood and Sons, and at that time one of the principal harpsichord makers in London."*

About the year 1766, a German named Backers undertook to apply the pianoforte mechanism to the harpsichord. In this work he was assisted by John Broadwood and by Stodart, at that time workmen in the employ of Tschudi. After many experiments, the grand-pianoforte mechanism was contrived by these three individuals, and was in all essential particulars the same as that still used by Messrs. Stodart and Messrs. Broadwood. It is remarkable for its simplicity, efficiency, and durability, and may emphatically be termed "the direct action." It was probably on an instrument made by Backers that Dibdin played in Covent Garden Theatre in 1767, as announced in an old play-bill in the possession of Messrs. Broadwood.† Mr. Pole refers to a grand pianoforte, still in existence, the name-board of which bears the inscription, "Americus Backers, factor et inventor, Jermyn Street, London, 1776." One of the most important improvements in mechanical arrangement was the introduction of the hopper, a small but ingenious contrivance, which intervenes between the lever, or key, and the hammer, and tends to regulate the action of the latter and prevent its rebound. This was the invention of Messrs. Longman and Broderip, to whom we have referred at the commencement of this notice.

Among the earliest manufacturers who devoted themselves to the improvement of the pianoforte were Tschudi, Stodart, Kirkman, Zumpe, Broadwood, and others. As Mr. Pole remarks,—"The superiority of the new instrument soon became so apparent that it gradually superseded the older and more imperfect one,—the harpsichord, which, within the short space of ten or fifteen years after the introduction of the pianoforte, entirely ceased to be made. A suitable style of music and school of players were not long wanting. Muzio Clementi founded both. He played in public on the grand pianoforte at an early period of its history, and from that date its progress in public favour was rapid. Clementi's successors have worthily followed in his steps. Finding new wants arise from time to time, they have demanded new improvements to supply them, and thus the player and the manufacturer vied with each other in the general advance."

* "An excellent portrait, by one of Hogarth's pupils, now on the premises in Great Pulteney Street, represents Tschudi in the act of tuning the royal harpsichord. The instrument is still in the palace of Potsdam."

† This play-bill has been reprinted at length in Mr. Pole's notice of the subject. The passage alluded to is as follows:—"At the end of Act I., Miss Brickler will sing a favourite song from Judith, accompanied by Mr. Dibdin on a new instrument, called Piano-Forte."

H. MAYE DEL. M. DIGBY WYATT, DIREXT. F. BEDFORD LITH.

THE RENAISSANCE VASE AND DISH IN PARIAN, BY MINTON OF STOKE-UPON-TRENT.

LONDON, PRINTED AND PUBLISHED MAY 1ST 1862, BY DAY & SON LITHOGRAPHERS TO THE QUEEN.

PLATE LIX.

PIANOFORTES,

BY COLLARD AND COLLARD OF LONDON.

In succeeding to the celebrated firm of Clementi and Co., Messrs. Collard pledged themselves to so high a class of production, that if their contributions to the Great Exhibition had been of any but first-rate quality they must infallibly have risked the loss of that distinguished reputation which had been originally obtained by the firm of Longman and Broderip,—the predecessors of Clementi; through whose mechanical talent some of the most important improvements in the construction of pianofortes had been obtained for this country. Of the instruments contributed by the Messrs. Collard to the Great Exhibition it has been remarked, that the same qualities of excellence characterised their grandest and most expensive pianofortes and their most unpretending and, consequently, least expensive instruments.

In the present article we propose to give some notices of the early history of the introduction of the pianoforte, and its origin in more imperfect and older musical instruments, reserving for a future article (in illustration of Messrs. Broadwood's admirable productions) some observations as to the present condition of the manufacture.

From the earliest periods in which stringed instruments have been at all used, only three modes of eliciting musical sounds from them have been practised. The first by friction, as in the violin; the second, by the use of the finger, of a pointed quill, or a hook, which, drawing the string aside, produced the vibration and the required sound by releasing it; and the third, by the employment of a plectrum or other instrument, producing the vibration by a blow given to the cord. It is by a recognition of the essential difference between the two latter of these principles,—those, namely, of *twitching* and of *percussion*, that we are enabled to perceive the distinction between the old virginals, dulcimers, spinets, and harpsichords, and the modern pianoforte. That the production of musical tones by percussion applied to strings, and conveyed and regulated by means of corresponding keys, was not unknown in the Middle Ages, is shown by a manuscript of the thirteenth century preserved in the Library of Ghent in Belgium, and by another of the fourteenth century in the National Library at Paris. According to an interesting notice of the subject by M. Fétis, père, principal of the Conservatoire at Brussels,* these manuscripts contain illuminations showing two rude instruments of this kind, in which may be recognised the strings placed vertically and acted upon by simple arrangements of hammers, so combined as to be set in motion by the depression of the keys.

When we endeavour to discriminate between the various analogous instruments which preceded and doubtless gave birth to the modern pianoforte, we find some little obscurity as to its immediate origin. Mr. Dodd, in his work on "British Manufactures," gives some interesting information on the subject. He remarks, that "the ancient psaltery (nearly the same instrument as the modern dulcimer occasionally seen in our streets) was probably the original whence all others have emanated; and, according to Mr. Hogarth,† it consisted of a square box of small depth, over which was placed a sounding-board of fir, and on this sounding-board were stretched a set of strings of steel and brass, tuned to the notes of the scale. They were struck or played upon by two little rods held in the hand of the player. A great change was effected when the little rods were abandoned, and mechanism introduced whereby each string was provided with a lever which struck it. The lever constitutes the key of such instruments as these, and, in the form of an instrument called the

* In the "Revue et Gazette Musicale de Paris," 31st August, 1851.

† Hogarth's "History of Music."

"THE COVENTRY RIBBON," AND RIBBONS FROM ST. ETIENNE.

Coventry manufacturers have been chiefly satisfied with the trade in cheap ribbons among the middle and lower classes; and in the attainment of cheapness combined with excellence they have surpassed all foreign competitors. Heretofore they have paid little attention to originality of design, and a tendency to copy or recombine French patterns still prevails; but the establishment of the Government School of Design in 1843 has already done much to remove this stigma from the town, and the exquisite ribbon now engraved, which is entirely of local origin, both in design and execution, may be regarded as a happy omen for the future.

This splendid article, which has been worthily denominated *the* "Coventry Ribbon," was produced as a specimen, of the capabilities of the local trade, rather than of its general productions. Its preparation was managed by a committee of the principal manufacturers, the most active member of the committee being Mr. Charles Bray, whose establishment is one of the most important in Coventry. He suggested, as the idea of the pattern, a wreath of flowers in a handful of natural grasses; and that idea was tastefully carried out by the designer, Mr. T. Clark, a young man under twenty-one years of age, a pupil in the Government School of Design in the town. The draughtsman, or "putter on," was Mr. Robert Barton, who, in this essential department, manifested great ability. The number of cards employed was 10,000, and cost, with the drafting, 150*l*. The number of shoots, or weft threads, to the inch was 500, and the number of cords 2400. Nine shuttles were employed in weaving this admirable specimen of the art, and not more than two and a half yards could be woven in a week, in a single hand, or one-shuttle loom. All that could be made in six months was sold to Messrs. Morrison, Dillon, and Co., of Fore Street, London, for 30*s*. a yard,—more than double the price ever realised by any ribbon before in this country.

We have added to our illustration of the Coventry Ribbon two agreeable specimens of those produced in France, at that great dépôt of the manufacture, St. Etienne. It was a lively subject of comment, on the part of many of the French visitors to London during the summer of 1851, that of all their staple productions the one least favourably represented in the Great Exhibition appeared to be that of the ribbon trade of St. Etienne. M. Blanqui, in his interesting "Lettres sur l'Exposition Universelle de Londres," has addressed a serious remonstrance to the manufacturers of that district on their want of activity on this important occasion, reproaching them with allowing the merchants of Basle and of Zurich, as well as those of England, to have received numerous orders which, with proper exertions, they might themselves have obtained.

The head-quarters of the French ribbon manufacture are in the towns of St. Etienne and St. Chamond. In those districts, its greatest developement in the early history of the silk trade has been dated from the year 1600 to 1680, at which latter period the number of looms employed amounted to no less than 10,000. We learn from the Report on the French Exposition of 1844, that "the Revocation of the Edict of Nantes, in banishing the industrial genius of France, materially affected the ribbon trade in that country, which from that period had to sustain a vigorous competition with the fabrics of Basle. From 1700 to 1760 it struggled on against difficulties, and it was only towards the latter year that the manufacture received a new developement by the exertions of the well-known house of Dugas, frères, of St. Chamond, who imported from Basle, and distributed throughout the various manufactories, mechanical looms, called looms *à la Zurichoise*, and now well known as looms *à la Barre*."

In the year 1788, when the long-continued patronage of the court and nobility had raised the manufacture of ribbons to its highest pitch of perfection, the number of looms employed in every department of the trade amounted to 15,000. In the year 1800, in consequence of the political troubles and the war, that number had declined to 13,800; and it does not appear that it ever, under the Empire, exceeded 13,850. At the present time the number may, without exaggeration, be estimated at least at 20,000.

It is well known that much of the celebrity which the ribbons of St. Etienne have obtained throughout Europe is due to the artistic education which the French manufacturers have always been so careful to give to the designers whose talents have worthily maintained the reputation of their productions.

PLATE LX.

"THE COVENTRY RIBBON," AND RIBBONS FROM ST. ETIENNE.

In Professor Beckmann's "History of Inventions,"—a work which after the lapse of thirty years fully maintains its value as a book of reference,—it is observed, that there is no certain information of the first invention of the ribbon-loom. It has been attributed to the Swiss, but the first positive account mentions it as having been invented at Leyden about the year 1621. There is, however, in the works of the Abbot Lancellotti, published in 1629, a circumstantial narrative of a ribbon-loom which was invented at Dantzic about fifty years before, and which, when set in motion, made from four to six pieces of itself ('*da se Stesso*'); but the magistrates of the town, fearing lest by this invention many workmen might be deprived of employment, interdicted its use, and it further appears, that, not content with this prohibition, they even caused the inventor to be privately strangled. The same author informs us, that "the States-General of Holland repeatedly circumscribed the use of the ribbon-loom, although they did not altogether abolish it. In the Spanish Netherlands, and throughout the greater part of Germany, it was strictly prohibited, and the Council of Hamburg ordered a loom to be publicly burned."

After adverting to the education by experience which led to the abolition of these restrictions, Professor Beckmann states, that "the ribbon-loom was brought to England from Holland in 1676, and was then called the Dutch loom-engine. Its introduction occasioned some disturbances among the ribbon weavers in London, but its evident utility ensured its adoption."

The ribbon-trade of Coventry may be almost regarded as the growth of the last thirty years, so immense has been its progress in that period. It was originally established in the town about 150 years ago,* and made great progress at an early period afterwards; but the quality of the Coventry silks became greatly deteriorated so soon as those of France and Italy were prohibited. The effect of that measure was to induce the manufactures of the town to recede instead of to advance in excellence.

The system of prohibition was brought to a close in 1824, and the reduced price of silk in consequence greatly stimulated the Coventry trade. Considerable capital was embarked in the fancy branches of the manufacture, and the trade has gone on increasing largely to the present time. The population of the town at the last census amounted to 36,800, a very large portion of whom are engaged in the ribbon manufacture. In 1823 there were only five Jacquard looms in the town, but in 1832 their number had increased to 600. In 1838 the increase was enormous, there being at that time 13,239 looms, of which about 2300 were Jacquard. There were four dyeing-houses and four throwing-mills in the district, besides several small establishments, in which raw silk was thrown by hand machinery. After some unsuccessful attempts, a steam-factory was profitably established about the year 1840. It was speedily followed by others, and there are now thirty steam-power-loom factories in Coventry, working 1000 looms and employing about 3000 hands when in full work. These looms can turn at least 7000 pieces in a week, which is at the rate of 364,000 a-year. The total number of manufacturers engaged in the ribbon trade, including "first-hand journey-hands," who own the looms on which they work and carry on their trade on their own account, probably exceeds 180.

Although fully competent to the production of ribbons of equal excellence with those of France, the

* We have adverted, in a former article, to the establishment of the silk trade at Spitalfields by the French Protestants, after the revocation of the Edict of Nantes. Mr. Bird, the grandfather of Mr. Wilberforce Bird, M.P. for Coventry, was assisted in his efforts to establish the ribbon trade there by some of these emigrants, and many French terms are still made use of in the manufacture.

when we are treating of the author of this admirable statue, 'The First Cradle?' It is the fact, however, that historical painting was for a long time the only subject of Auguste de Bay's labours; and if at a later period the manipulation of the chisel became suddenly familiar to him, it was because the severity of his studies from nature had predisposed, and in some sort initiated, him into the secrets of the art of Phidias, and that confinement to one art alone offered too narrow a field for the fertility of his genius. In giving himself up to his vocation, he could not be satisfied with animating his canvass; he required also to give life to the stubborn marble. In the same manner as the Muses are sisters, so do the Fine Arts hold each other by the hand; nor is this the first time they have been seen associated in the same high degree in the person of one artist. Of this the history of art affords some rare examples. The one under our notice carries our thoughts back to the divine Michael Angelo, and can we help asking if Auguste de Bay has not caught from his example an extra ray of genius?

"At the period of his return from Italy, our artist was still only a painter. He brought with him a picture, which hangs, with credit to its painter, in the National Gallery of the palace of the Luxembourg at Paris. For some time he continued to practise his art with success, and several of his works in the museum of Versailles display the power of his talents.

"Living with his father, whose skilful chisel was continually producing some new *chef-d'œuvre*, and following with a lively interest the works of his elder brother, a sculptor also of considerable merit, Auguste de Bay perceived the germ of his future talent developing itself within him. While enjoying the retired and tranquil life to which he was deeply attached, he had numerous opportunities of witnessing the animation of marble and of bronze beneath the sculptor's hand; and, stirred by such examples, he at length felt within himself, '*anche io son' scultore.*'

"Nor was he deceived in this belief. Some leisure moments having enabled him to put into form a model of the subject he had imagined, the clay, obedient to his inspiration, soon revealed in the most beautiful shape the idea of the artist.

"Thus was originated the charming group to which he has given the name of 'The First Cradle.'

"We see Eve, the mother of the human race, holding to her bosom, and in her arms, with which she forms a cradle for her two children, Cain and Abel sleeping. Her head is bowed over them, and her look of love falls upon them. She seems as though she could already perceive some faint indication of the different feelings which, in despite of sleep, betray themselves in the instinctive movements of her children. In blissful ignorance of the future, she sees no crime,—she perceives no virtue,—she has but one sentiment, the first and most natural feeling of woman, that of maternal affection. Cain sleeps; but in his unquiet slumbers his hand repulses his brother, whom he seems to feel too near to him: this action, and the expression of his features, already reveal the nature of his cruel instinct. His brother Abel reposes in the pure sleep of innocence; he appears an angel in the cradle. Upon the sides of the base the author has engraved, in bas-relief,—the fatal tree of knowledge; the offering of Abel accepted by the Creator, that of Cain refused; and, upon the front, the fratricidal murder. Thus have we a summary of this first terrible page of the history of the human race. No subject could be more fit for sculpture, nor could it have been expressed in a more perfect manner. The whole group bears a touching aspect of grace, melancholy, and mystery.

"The laws of the most rigorous modesty have been observed, and inspire respect. The naked figure has been treated with that severity of style which the representation of the purest beauty emanating from the hands of the Creator required. Auguste de Bay, in triumphing over the first difficulty of the art, that of putting his idea clearly into form in a composition at once happy and essentially appropriate to sculpture, became at once and unquestionably an eminent sculptor. To complete his conquest he had yet to overcome the difficulties incidental to procuring expression in marble,—that hard and unyielding material, which seems to refuse to be animated,—that inert mass, which yields only to the exertions of a patient genius, and denies itself to those trifling and commonplace inspirations which a pure and severe taste have not refined. One of the most perfect blocks of Carrara marble procurable was submitted to his rapid and intelligent chisel, and in the space of less than a year came forth a *chef-d'œuvre* destined henceforth for posterity.

"This group met with unanimous approval at the Exposition of Paris, 1844; a success which received a yet more solemn consecration at the universal Exhibition of London in 1851, where it contributed worthily and with dignity to uphold the glory of French art."

PLATE LXI.

THE FIRST CRADLE,

IN MARBLE, BY DE BAY OF PARIS.

The peculiar organisation which usually accompanies the artistic temperament is one of excessive susceptibility. That very aptitude to receive impressions from external nature, which the heaven-born artist invariably possesses, too frequently renders him a prey to intense nervous sensibility, and makes his life one continued excitement,—fluctuating between excessive gaiety and enjoyment on the one hand,—and deep despondency or constant irritability on the other. In spite of his proverbial defects of character, many of which arise from the peculiar organisation to which we have referred, the artist has rarely failed to interest and attract, scarcely less in his person than in his works. Himself expansive and inclined to love, he rarely fails to secure the affection of his friends; and in all the history of art, we find constantly that the greatest masters have been either surrounded by troops of friends, if their inclination led them into society, or worshipped by some tender soul in private, if their habits were of a more domestic character. Artistic friendships partake more of the nature of love than is common in the relations of affection which usually obtain between less keenly-strung mortals; and hence the feeling of clique and partisanship which is proverbial among the race. Strong when excited, but almost a child in matters irrespective of his feelings, the artist stands in peculiar need of a friend to sustain his wavering spirits when oppressed,—to regulate his enthusiasm when overjoyed. Such a friend most great masters have had, and most living artists do possess; and such is M. de Serignon, the celebrated portrait-painter of Paris, to Auguste de Bay, the sculptor of the exquisite group we engrave.

The ties which unite those kindred souls are of the most intimate description, and we consider ourselves eminently fortunate in being able to present our readers with a memoir of the one written by the other. To that short notice we shall presume to add neither note nor comment, but shall only premise our translation by observing, that when troubles overtook De Bay, in the course of those revolutions which have brought such misery on so many of the finest artists of France, de Serignon assisted his friend in every way, taking upon himself to guarantee the expenses of the execution of the group we engrave in marble, under the peculiar circumstances about to be related, and before the model had been seen by any other than himself. Of the original of this group he is now the worthy possessor.

M. de Serignon thus sketches the biography of his friend. "Auguste de Bay," says he, "possesses one of those rare organisations, the peculiarities of which assert themselves from the tenderest childhood. His artistic instinct and studious character found in his own family the most favourable elements of education. As the son of M. Jean Baptiste de Bay, a sculptor of great merit, his precocious genius was nurtured, as it were, from the very cradle, by the most careful instructions of a description admirably fitted to secure him a brilliant career. Among the celebrated artists who belonged to the friendly circle of the elder M. de Bay, was the illustrious Baron Gros, who, being struck with the talents of the young Auguste, desired to become his master. Under the direction of this great painter our student, in a few years, gained every academic distinction. At the age of eighteen he terminated his studies, and crowned his scholastic success by carrying off the grand prize of painting, which enabled him to visit Rome, where he remained seven years.

"But the question naturally arises, How is it that we have occasion to speak of the first prize for painting,

cornice, or from corbels of varied design. The main surface was formed into panels by moulded ribs, with carved bosses at their intersections; and when the hammer-beam system (peculiarly English in its nature) was adopted, the ends of those beams were formed into figures of angels, the spandrels of the braces being filled with exquisite tracery. The finest church roofs of this era are to be found in Lincolnshire, Norfolk, and Suffolk,—especially in the church of St. Mary, Bury; and those of Woolpit and Grundisburg, Suffolk. The latter* is a *double* hammer-beam roof, all the ends of the beams, and even the king-posts, forming figures of angels; and the effect of this heavenly host, leaning forward from their airy height, is grand and solemn beyond description. "These carvings," observes Mr. Pugin,† "had a mystical and appropriate meaning. They usually represented angels, archangels, and various orders of the heavenly hierarchy, hovering over the congregated faithful; while the spaces between the rafters were painted azure, and powdered with stars and other celestial emblems,—a beautiful figure of the firmament. Some of these angels held shields charged with the instruments of the Passion, the Holy Name, and other emblems; and others, labels with devout Scriptures." The churches of Wymondham, Long Melford, St. Peter's, and All Saints, Norwich; St. Mary's, Devizes; and many others, present fine examples of this description; the whole of them having been, not only elaborately carved, but richly painted and gilt. As Messrs. Brandon truly observe, "none other than our own oak-bearing land can boast of roofs such as those that abound with us, either in beauty or boldness of execution."‡

Next in importance to the roofs are the screens of ancient churches. As Mr. Pugin observes,§ every parochial church, small or great, had, in mediæval times, at least a chancel-screen, either of metal, stone, or wood, and often others to the side-chapels and other parts of the structure. Their employment, indeed, may be universally traced from the Saxon times down to late in the sixteenth century;—even subsequently to the Reformation. "There is no country in Christendom," Mr. Pugin remarks, "where so many screens are still standing as in England." Our cathedrals abound with examples, both in stone and wood; and the profusion of the carving bestowed upon the wooden screens of our parochial churches strikingly attests the talent of the mediæval artists. Whether a simple screen, or supporting a rood-loft, the chancel-screen was always highly enriched; the lower panels with painted figures of saints, apostles, and martyrs, on gold and diapered grounds, the upper portion perforated in the most exquisite traceried designs, and the cornice covered with beautiful foliage and inscriptions. The "holyrood," with its attendant "imagines," was itself the subject of most lavish decoration. Norfolk, Suffolk, and Lincolnshire, possess screens as elaborate as their roofs; and those of Cambridgeshire, Devonshire, Lancashire, and parts of Wales, have almost equal claims to notice.

The stalls of large churches, with their accompanying misereres, supplied a fertile field for carved decoration. The former, surmounted by overhanging canopies and tabernacle work, demonstrate the perfection of the art; whilst in the latter the artist seems to have revelled, free from the trammels of ecclesiastic rule, mingling in the strangest manner the most graceful foliated designs with the most grotesque, and, in some cases, the most profane devices. Human figures of every grade, costume, and occupation, animals and monsters of all kinds, displaying the most vivid and teeming imagination, abound in these curious carvings; and the freedom and boldness of their execution have certainly rarely, if ever, been surpassed.

The doors of churches in the decorated and perpendicular styles were carved in harmony with the architecture of those periods,‖ and the ends of the pews, or open seats, were panelled, and elaborately ornamented. The later examples rose with an ogee curve, and terminated in finials, or "poppy-heads," as infinitely diversified in form, and as admirable in their execution, as were the misereres. "The Church of St. Mary Stratton, Norfolk, alone furnishes us with nearly one hundred distinct patterns; nor is this a solitary case." The riches of parochial churches, in the possession of decorations in beautifully-carved wood, have been admirably illustrated of late years by the researches and artistic ability of Messrs. T. T. Bury, Orlando Jewitt, P. H. Delamotte, R. W. Billings, and many others

* Illustrated in Messrs. Brandon's "Analysis," which contains an able essay, and numerous engravings of ancient wood-work.

† "True Principles of Gothic Architecture."

‡ Public attention, as to the propriety of reviving such roofs in modern church architecture, was greatly stimulated, if not awakened, by an excellent article upon the subject of open roofs, written by the Rev. T. Mozley, and published in the "British Critic Review."

§ In his work on Screens.

‖ See that of Stoke Church, Suffolk (a fine example), engraved in Brandon's "Analysis."

F. CLAYTON, DEL.

M. DIGBY WYATT, DIREXT.

J. A. VINTER, LITH.

THE FIRST CRADLE, BY DEBAY OF PARIS.

LONDON, PRINTED AND PUBLISHED MAY 15TH 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE LXII.

WOOD-CARVING,

BY WALLIS OF LOUTH.

In examining a beautiful work of modern art, and remembering the earliest attempts to produce a similar object, it is difficult to recognise any connexion between the two. That such connexion exists is, however, most certain; since it is only by the various steps of progression which link the works of one generation to those of its successor, and by the gradual accumulation of improvements thus introduced in a long course of years, that the precise form of the most perfect artistic productions has been determined. We conceive, therefore, that our best illustration of the objects we engrave must frequently consist in an endeavour to trace the successive changes which have taken place in the various arts which they exemplify, and on the traditions of which their specific form and execution is more or less dependent. Thus in the beautiful group of flowers and birds, so admirably carved in lime by Mr. Wallis of Louth, we trace the immediate operation of the talent of Grinling Gibbons. From the works of this latter master, the mind naturally recurs to those earlier examples of graceful execution, of arms, of fruit, of flowers, strapwork, shells, and other objects, which form such important features in buildings of the Elizabethan period; whilst the dependence of these, in point of style, upon the exquisite carvings of the Gothic period, carries us yet further back to the earliest stages of the art.

We propose, therefore, in the present article to give a brief and rapid sketch of the art of wood-carving, as applied to ecclesiastical uses in this country from its earlier days; and in subsequent papers we shall notice other branches of the subject, and probably advert to the peculiarities of contemporary schools in other countries.

The remains of early timber-work in this country are so few, that until we arrive at what in architecture is called the Early English period, we cannot trace with certainty the progress of wood-carving. In a country so rich in timber, however, there can be no doubt that, even in the Anglo-Saxon era, much decoration of this kind was applied to furniture and buildings. From the twelfth to the sixteenth centuries, the churches of England displayed the highest skill and refinement in the ornaments applied to their roofs, screens, rood-lofts, stalls, doors, and other members; and the more these are studied the more we must admire the artistic feeling and manipulative skill of our ancient carvers in wood.

It has been well observed,* that "a timber roof of the fifteenth century, with its massive timbers, elaborately wrought and moulded, its rows of hammer-beams, terminating in beautifully carved figures of angels, its enriched panelling and traceried spandrels, its exquisite bosses, and, above all, its profusely ornamented cornice, is truly as glorious a sight as it is a grand triumph of art." Adverting more particularly to the timber-framed roofs of ancient churches, it may be observed, that the early examples were almost exclusively tie-beam roofs; but, although occasionally retained to a very late period, as a general rule, the tie-beam was early dispensed with, leaving the inner surface of the roof exposed, and thus affording an opportunity for the richest decoration. In the church of Old Shoreham there is a tie-beam having the dog-tooth moulding, the foot of the king-post being formed into the base of a column of the period,—transitional from Norman to Early English In the decorated period much ornament was introduced, the main timbers springing from a rich

* In Messrs. Brandon's "Analysis of Gothic Architecture."

SIDE OF A ROOM, BY JOHN THOMAS.

The crowning event of his career, however, was his engagement with Sir C. Barry to undertake the whole management of the sculptured decorations of the Palace of Westminster, which arduous task he accordingly commenced on the 9th of November, 1841; and in the prosecution of which the modelling and carving of the whole of the ornaments, as well as the innumerable statues in stone which decorate so profusely that magnificent fabric, have received the constant benefits of his artistic taste, and in many cases of his manipulative ability as well. Notwithstanding the restrictions imposed by the conventionalities essential to the style adopted, these works display a variety and freedom which indicate the fine feeling of Mr. Thomas for the breadth and grandeur of nature. His design and specimen for the wood carving of the Palace of Westminster was highly approved by the Royal Commissioners, and he was one of the nine sculptors to each of whom was entrusted the execution of two statues for the interior of the House of Lords.

It would be difficult to enumerate all the varied works which Mr. Thomas has produced. To a few, however, we are enabled to direct attention. On the occasion of his employment by Mr. Peto, M.P., to rebuild his Hall at Somerleyton, in Suffolk, he not only successfully carried out the building itself, but the sculpture, fountains, chimneypieces, and decorations, and the furniture of the dining-hall. In like manner he is now engaged at Preston Hall, in Kent, the seat of E. L. Betts, Esq., and the admirable taste which characterises his designs for interior decoration require no other testimony than that afforded by the "Side of a Room," which forms the subject of our present illustration.

It is only since 1844, when Mr. Thomas first exhibited at the Royal Academy, that he has turned his attention to ideal sculpture; but he has already executed several beautiful works in marble, including a group of Britannia, Science, and Industry, together with several basso-relievos, in the Great Room at the Euston Station; and basso-relievos of Peace and War, in Buckingham Palace, executed for His Royal Highness Prince Albert. He is now engaged upon two marble statues of "Night" and "Musidora."

We may swell our still imperfect list of his productions by the following successful works:—the colossal Lions on the Britannia Bridge; life-sized figures, in oak, in the new Hall in Lincoln's Inn; statues for the new Law Courts at Bristol; sculpture for the Bank and Exchange Buildings, Glasgow, and the Imperial Fire Office, London; monuments to Dr. Arnold of Rugby, and many others. He has also in progress the sculpture for the new hotel at the Paddington Station of the Great Western Railway; and a colossal sculptural fountain for the Earl of Carlisle. We may conclude our narrative of perseverance and success by stating, in his own words, that Mr. Thomas "has never studied under any master, nor attended any drawing or modelling school." The infinite energy and labour he has been compelled to exert to compensate for these disadvantages of circumstance, should make all whose means enable them to enjoy such assistance deeply conscious of its value,—as assisting them to master, at least the preliminary difficulties, that beset the attempts of every beginner in art.

In carrying into effect his designs for decoration, Mr. Thomas has been materially assisted by the ability of his friend Mr. Moxon; whose talent, not only as a successful imitator of various woods and marbles, but as a skilful and tasteful designer of marqueterie and mosaic-work, must have been at once appreciated by every one who studied those departments of art as represented at the Great Exhibition.

F. SMALLFIELD, DEL.

M. DIGBY WYATT, DIREX.

F. BEDFORD, LITH.

A GROUP OF FLOWERS CARVED IN WOOD BY WALLIS OF LOUTH, IN LINCOLNSHIRE.

LONDON, PRINTED AND PUBLISHED MAY 15TH 1853, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE LXIII.

SIDE OF A ROOM,

BY JOHN THOMAS OF LONDON.

ALTHOUGH the apartments of our richest millionaires rarely exhibit a degree of splendour in decoration at all rivalling those of the rich *salons* of Paris, it may be questioned whether, in quiet excellence, many English interiors are not much more agreeable. They are, at least, more consistent with that disinclination to display which forms so essential an ingredient in the national character.

Of late years great progress has been made in this department of art, as compared with the decorations which predominated during the reigns of our last sovereign and his predecessor. In point of expense, however, we much doubt whether even the most elaborate modern enrichments approach to that which was commonly bestowed upon the decoration of the principal apartments of mansions erected in the reigns of the earlier Georges, when joiners' work triumphed in every part, when every moulding, on doors, skirtings, shutters, and dados, was enriched by elaborate carving, and when a profusion of hand-worked stucco decorated the ceilings.

In the application of ornamental modelling to architecture, a great advancement has been made within the last few years, and modern Gothic works especially are greatly indebted to the important labours which have been carried on under the superintendence of such men as Mr. Thomas (the author of the beautiful design we now engrave), Mr. Myers, and some others, who may be said, in fact, to have formed a new school of carvers both in wood and stone.

Mr. Thomas has attained a high degree of distinction as a sculptor, and a large amount of profitable employment, solely by his own persevering and well-directed efforts. From information with which he has kindly favoured us, we are gratified to be able to narrate a few of the incidents of his honourable career.

This artist was born in 1813, at Chalford, in Gloucestershire, and in his twelfth year was apprenticed to a stonecutter at Stroudwater, in the same county. He was soon afterwards left an orphan, and with means inadequate for his subsistence. Even at this early age Mr. Thomas seems to have acquired those habits of industry and perseverance which lead to success, and also, though in a humble degree, much varied artistic knowledge; for, to provide himself with necessary comforts, he laboured assiduously at night in painting sign-boards and engraving brass plates, for a very small remuneration. During the last year of his apprenticeship he walked to Oxford, in the depth of winter, with but a few shillings in his pocket; and from that journey he imbibed a love for the ornamental work of the mediæval sculptors, and a determination to excel in it.

On the completion of his apprenticeship, Mr. Thomas resided for a short time with his brother, who was in practice as an architect at Birmingham. Having executed a large Gothic monument, with some other works of the same class, the ability they displayed attracted the attention of Sir Charles Barry, who was then engaged on King Edward's Grammar School at Birmingham; and who at once employed him to execute the whole of the sculptured decorations with which that edifice abounds. From this time the path of the young artist was freed from difficulties. He executed many works under Mr. Blore at different mansions in Cheshire, and was also employed at the various stations on the North Midland Railway.

The crowning event of his career, however, was his engagement with Sir C. Barry to undertake the whole management of the sculptured decorations of the Palace of Westminster, which arduous task he accordingly commenced on the 9th of November, 1841; and in the prosecution of which the modelling and carving of the whole of the ornaments, as well as the innumerable statues in stone which decorate so profusely that magnificent fabric, have received the constant benefits of his artistic taste, and in many cases of his manipulative ability as well. Notwithstanding the restrictions imposed by the conventionalities essential to the style adopted, these works display a variety and freedom which indicate the fine feeling of Mr. Thomas for the breadth and grandeur of nature. His design and specimen for the wood carving of the Palace of Westminster was highly approved by the Royal Commissioners, and he was one of the nine sculptors to each of whom was entrusted the execution of two statues for the interior of the House of Lords.

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W. BUTLER, DEL. M. DIGBY WYATT, DIREXT. F. BEDFORD LITH.

DECORATION OF AN APARTMENT BY THOMAS OF LONDON.

PLATE LXIV.

PORTIÈRES OF PRINTED MOHAIR,

BY R. LEES AND CO. OF LONDON.

We have already, in our notices of the shawls of Cashmere, indicated the commercial value and importance of the soft wool of the goat of that portion of the world; and in considering the fabric known as mohair, we have now to describe the wool of another species of goat, which is indigenous to the district of Angora in Asia Minor.

Mohair is literally the *hair* of this animal, though the term is applied to articles manufactured from it.

The most complete account of the nature and habits of the Angora goat, and the manufacture of its fleece, is to be found in a valuable paper written by Captain Conolly, and read before the Asiatic Society in January 1840.* The author observes that "the long-famed goat, peculiar to the province of Angora and certain adjoining districts, is invariably white; and its coat is of one sort, namely, a silky hair, which hangs in long curly locks." He further states that the fleece of this goat is called "Tiftik," which is the Turkish word for goats' hair; in contradistinction to *yun* or *yapak*, which signifies sheep's wool. Unlike that of the Cashmere goat, the whole fleece of the Angora species is available for the manufacture, without any separation of the hair from the down.† That of the female is considered to be the best.

The yarn is spun by the women of Angora, who attach much importance to a habit of moistening each tuft of wool with their saliva, before they draw it from the distaff; asserting that yarn spun during the season in which their principal food consists of the melon, is far superior to that spun at other times. It will be remembered that steeping in rice-water is an important part of the manufacture of Cashmere wool; and besides the moistening process above-described, the yarn of Angora is again well saturated with a glutinous liquor, called *chirish*, which is prepared from a small root; and this operation is equally curious with the former. The large hanks of yarn being extended in a frame, "two men walk up and down the sides of it, holding bowls of *chirish* liquor, made into a thin yellow mucilage. Of this they continually blow out mouthfuls, in alternate showers, all over the yarn—*iplik*,—while others follow them to press the threads together for a moment, and then to change their position relative to each other by means of sliding cross-bars, so that all may be equally moistened."

The women of Angora are so skilful in knitting gloves and socks from the tiftik yarn, as to have excited the astonishment of English manufacturers. Some socks are made so fine as to cost one hundred piastres (about 20*s*.) the pair.

Captain Conolly informs us that "the cloths woven from tiftik at Angora are of two kinds, *shalli* and *sôf*, or twilled and plain cloth, and the manufacture of these is confined to men. The weaver sits with nearly half of his body in a small pit, at the bottom of which he works two or four treadles with his feet, according as he wishes to make plain or twilled cloth. Part of this loom is fixed to the floor before him, and the rest is suspended nearly over it from the ceiling. He contracts to work a piece of thirty *piks*, or rather

* It is printed in the "Transactions" of the Society, and is also largely quoted in a useful and elaborate work on "The Rise, Progress, and Present State of Colonial Sheep and Wools, embracing Remarks on the use of Alpaca, Angora, and Cashmere Goats' Wool. By Thomas Southey." 8vo. 1852.

† See our notice of Plate XLVIII.

more than twenty-one yards, for a sum which varies, according to the texture required, from fifteen up to one hundred piastres; and by working steadily he may finish a piece of this regular measure in six days." The stuffs are died at Angora, either in the yarn or in the piece; in the latter case the colour is less durable. The dyes used are imported from Smyrna and Constantinople, in addition to some local vegetable substances.

Before the Greek revolution there was a prohibition against the export of tiftik from Turkey, except when wrought, or in the form of *iplik*, or yarn. In the days of its greatest prosperity, the town of Angora, —the chief, if not the only town in which weaving is carried on,—contained 1200 looms. There was at that time very little demand for the raw material in Europe, and even in 1820 the hair only produced 10*d.* per lb. in England, where its value was not duly appreciated. It has since, however, gradually risen in estimation and demand, and the ordinary price for many years has been 18*d.* per lb. Permission is now freely given by the Turkish Government to export raw tiftik, and as the European manufacturers readily avail themselves of it, the weaving carried on at Angora has greatly diminished. There are now only about fifty looms in the town, and its exports of stuffs do not exceed 1000 or 1500 pieces annually, instead of 20,000, which were formerly required. But although the city has thus suffered, the province at large has benefitted by the increased demand for the raw material.

The effect of the permission to export the raw material is strikingly shown by the following statistics from the paper by Captain Conolly, and from information kindly furnished us by Messrs. Lees. In 1836 the exports from Constantinople were 538 bales of mohair yarn and 3851 bales of wool; but in 1838 only 21 bales of yarn were exported, while the wool exported had increased to 5528 bales. In 1831 the quantity of mohair, or goats' wool, brought into England was 331,658 lbs. This quantity has since enormously increased, as will be seen by the following figures:—Quantity imported,

In 1838 . .	942,770 lbs.	In 1848 . .	1,165,368 lbs.
1844 . .	1,290,771 „	1850 . .	2,800,250 „
1846 . .	1,287,320 „	1851 . .	2,124,600 „

The manufacture of mohair from native yarn, imported principally from Smyrna, has been carried on in England for upwards of a century, chiefly in the production of camlets and other expensive stuffs. "These camlets," observes Mr. M'Culloch,* "are manufactured on a loom with two treadles, as linens are. They are of various colours and sorts. Some are wholly of goats' hair, and in others the warp is of hair and the weft half hair and half silk; whilst camlets are also made of wool, either alone or in conjunction with cotton thread. They are made both plain, striped, watered, and figured." "Moreens," says Mr. Southey,† "are also made from mohair, and woven white, and then dyed any colour required. The characteristic feature that distinguishes this kind of manufacture is the effect produced upon it by the process of watering."

The manufacture was, however, until within a few years past, chiefly confined to an article called mohair plush; used almost exclusively for servants' livery clothing, and as vestings for agricultural labourers, amongst whom its durability and capacity for receiving bright and lasting colours have long rendered it proverbially popular.

A complete revolution in the manufacture has, however, been effected by the spirited exertions of Messrs. Lees and Co., one of whose most recent improvements we now present to our readers. Their efforts have been chiefly directed to the advancement of the process of printing on mohair, an art which they have now brought to the highest pitch of perfection. Finding that this material, to use their own words, "receives, holds, and throws out the colours imparted to it with a beauty and brilliancy greater than any other fabric, and that its cleanliness and durability are very great," they applied it in the year 1836 (under the firm of Gillett and Lees) to the production of Utrecht velvet, which had not before been made in England, but which is now in extensive demand.

They have since applied it to various articles of furniture (such as curtains, portières, cushion coverings, &c.), and have spared no exertions to render their works as excellent in design as in execution. The portières engraved fully prove the success which they have attained. These have been printed by Mr. Charles Swaisland, of Crayford, from the designs of Mr. J. G. Crace, by means of no less than 268 blocks.

* "Dictionary of Commerce."

† "Treatise on Sheep," 8vo. 1840.

PLATE LXV.

PILASTER IN CARTON PIERRE,

BY CRUCHÊT OF PARIS.

In the remarks which accompanied Plate L., we took occasion to trace the progress of cinque-cento art, as illustrated by the ornamental sculpture of Italy.

In examining the productions of the period of the Renaissance in France, their coincidence of style with those of Italy is very striking. The profuse decoration of the celebrated châteaux of the period of Francis the First, doubtless derived much of its character from those Italian artists who led the movement of the revival of taste in France; such as Primaticcio, Rossi, Benvenuto Cellini, Niccolo dell' Abbate, Girolamo della Robbia, and others; but the genius of the French nation manifested itself in a truly independent form in the persons of the eminent artists, Jean Goujon, Pierre Lescot, Philibert de Lorme, and Germain Pilon. The creations of those master-minds have long served as models to French designers; and although their beauties were neglected in the foggy atmosphere of the *rocaille* and *barocque* styles of Louis XIV. and XV., still in later days and during the present century the admiration of the most intelligent connoisseurs has been excited by the happy imitations of Renaissance ornament, which have from time to time proceeded from the *ateliers* of the most tasteful architects and the workshops of the most skilful manufacturers.

This renewed popularity of Renaissance ornament may be regarded as due to two principal causes,—namely, the facility with which the stone of Paris may be carved into arabesques and foliage for exterior purposes, and the low price at which, by the employment of plastic materials, the richness of the old *salons* of Henri II. and Diana of Poictiers may be reproduced in the apartments of the aristocracy and the *bourgeoisie* of Paris. No material has perhaps contributed more essentially to this result, than that in which the object we engrave has been executed, and we now propose to offer a few observations on the history of its manufacture in France, only premising that the firm by which this graceful pilaster has been produced is as well known for the talent of the artists it employs to design and model, as for its excellence in mechanical execution. In 1839 Messrs. Cruchêt obtained a bronze medal, and were highly complimented by the jury who decided on the merit of the productions in the Exposition of that year. In 1849 they again entered the lists, and their exertions were rewarded with a silver medal.

The application of paper, as a medium for the execution of architectural ornament, is by no means of recent origin in France. Examples of its use in the sixteenth century may be found. Some of the early decorations in the interior of the Louvre were made in carton pierre, formed by sheets of paper moistened with paste, laid one upon the other and pressed and rubbed into hollow moulds. The grand trophies and heraldic embellishments which decorate the vault of the ceiling of the Hall of Council of Henri II. were also in this material, as well as the ornaments of the choir of St. Germain l'Auxerrois, and the Hôtel des Fermes.

All these works were executed in the primitive manner we have described; but it is not to be imagined that so rude and laborious a method of working was long retained. The principal improvement in the manufacture was introduced by a sculptor of the name of Mezière, and carried out by his successor, M. Hire, who was likewise a sculptor. This improvement consisted in reducing the paper to a pulp, mixing it with plaster and size, and then pressing it into hollow moulds. This pulp contained within itself a cementitious element,

superseding the necessity for employing flour-paste, which had been used before to unite the successive sheets of paper. Since the days of Mezière and Hire, M. Romagnesi, an ornamental sculptor of great talent, has succeeded in developing to its highest extent the capabilities of carton pierre. The substance manufactured before his introduction to the business was so coarse in texture as to require covering with several coats of fine plaster, which again had to be cleaned up and sharpened by hand with cutting and scraping-tools, before gilding could be applied to it. M. Romagnesi, however, succeeded in reducing the pulp to so fine a state, that it became susceptible of rendering the finest lines of the moulder; and the gilder was thus enabled to apply his leaf at once. By this perfection the quality of the substance was greatly improved, and much greater economy was attained. The rich interior effect of many of the modern buildings of Paris is largely to be ascribed to the employment of this material. In the Tuileries, the Louvre, the Palais Royal, the apartments of the principal ministers, many churches, and other edifices, a great portion of the architectural enrichments are executed in carton pierre. Statues, even of considerable dimensions, have been produced in this substance, the lightness of which is one great recommendation to its use.

In this country we have been little less assiduously at work in effecting improvements in the manufacture. In papier mâché and in carton pierre, as applied to architectural decoration, it would be difficult to excel the productions, either of Messrs. Jackson or of Messrs. Bielefeld; while in the application of the substance to minor articles of furniture and decoration, in combination with the processes of japanning and inlaying, the works of Jennens and Bettridge, Lane, and M'Cullum and Hodgson of Birmingham, Walton of Wolverhampton, and Clay of London, leave little to be desired.

From an early period small objects, *bonbonnières*, étui cases, &c., have been made on the Continent in papier mâché; but it appears probable, from the accounts given by the French themselves, that the application of paper to architectural decoration was, if not of earlier introduction, at least more generally employed in England than in France.

In an essay "On the Use of the improved Papier Mâché in the interior Decorations of Buildings and in Works of Art," Mr. Bielefeld has made some interesting remarks on the decorations which preceded the employment of that material. He observes that, "with the Elizabethan style (the Renaissance of England), rich plaster ceilings were very generally brought into use; and in the more classic, or Italian styles, that followed, the same material was still more extensively and more boldly employed. As the art advanced, plaster became partially substituted for carved or panelled wood-wainscoting on walls. Both in that situation, and upon ceilings, foliage of the highest relief, and of the richest character, may at the present day be found in the more important edifices remaining of the seventeenth and beginning of the eighteenth centuries. These enrichments were generally worked, or rather modelled, by hand upon the stucco in its place, whilst still in a soft and plastic state.

"As this work had to be done on the spot, and with much rapidity of execution, in order to prevent the stucco from setting before it had acquired the intended form, the art was somewhat difficult. The workman had to design almost as he worked; therefore, to do it well, it was necessary that he should have some of the acquirements and qualities of an artist. This circumstance, of course, tended very much to limit the number of workmen, and their pay became proportionably large.

"It was no unnatural consequence that artisans thus circumstanced assumed a consequence that belonged not to their humble rank in life; it is said that they might have been seen coming to their work girt with swords, and having their wrists adorned with laced ruffles. Such a state of things was, as may be conceived, attended with many inconveniences to their employers; it was scarcely possible to preserve that subordination so essentially necessary in carrying on the business of a builder, and ultimately the workers in stucco, laying aside all restraint, combined together to extort from their employers a most inordinate rate of wages. It would be superfluous here to detail all the circumstances that followed; it is sufficient to state that, as might have been anticipated, the total ruin of their art was the final result of these delusive efforts to promote their individual interest.

"Contrivances were resorted to by the masters, which soon supplanted the old mode of working in stucco. The art of moulding and casting in plaster, as previously practised in France, was generally introduced; and the art of preparing the pulp of paper became improved and extended, so as ultimately to render practicable the adoption of papier mâché in the formation of architectural decorations. Thus, at last, was extinguished the original mode of producing stucco ornaments; and there, probably, has not been for many years a single individual in England accustomed to that business."

M. DIGBY WYATT DIREXT.

J. A. VINTER. DEL ET LITH.

PILASTER IN CARTON PIERRE BY CRUCHET OF PARIS.

LONDON. PRINTED AND PUBLISHED JUNE 1ST 1852, BY DAY & SON LITHOGRAPHERS TO THE QUEEN.

PLATE LXVI.

GOLD ENAMELLED AND JEWELLED VASE,

BY WATHERSTON AND BROGDEN OF LONDON.

The production of a magnificent specimen of gold plate is comparatively so great a rarity, that but for the stimulus afforded by the Great Exhibition, it may be questioned if any work of so ambitious a character as that which we now engrave would have been executed in England for many years to come. We cannot, therefore, but commend the energy which led Messrs. Watherston and Brogden to demonstrate as they have in this production the capability of English goldsmiths and jewellers to create works which, for sumptuous and delicate execution, may rival those produced at the best periods of the art in Spain and Italy by artists such as d'Arphes and Cellini.

The gentlemen by whom this vase was exhibited have for many years held a distinguished position as practical executants of every class of jewellers' work. Their establishment was originally founded by Mr. John Brogden, who held the important and honourable office of Prime Warden of the Goldsmiths' Company; and the business, after passing through two generations, maintains in its fullest integrity the reputation he originally acquired for it. Mr. James H. Watherston, the present head of the firm, is well known to those goldsmiths connected with the important office of verifying the quality and weight of the coin of the realm, from his publications on the subject. His elaborate "Tables showing the legally-appointed weight of gold and silver coins pursuant to Mint indenture, constructed for the use of the Goldsmiths composing the Jury of the Pix," are accepted and constantly used. His "Gold Valuer" is a more popular, though not less carefully constructed, little work.

The circumstances connected with the production of the beautiful vase now before our readers are of an interesting nature. Mr. Alfred Brown, its designer, had been in his youth most kindly assisted by Mr. Watherston, who had contributed to place him in the position which he now so honourably fills in the establishment of Messrs. Hunt and Roskell. In his studies at the Royal Academy, Mr. Brown succeeded in gaining all the honorary medals. An occasion presented itself in the Great Exhibition of 1851, when the exercise of the artist's talents appeared likely to render an essential service to his old friend and patron, and with a praiseworthy feeling he immediately offered to testify his gratitude to Mr. Watherston by devoting his best energies to his service. He accordingly designed the vase now engraved, which is equally honourable to the artist and the manufacturers.

Its body and foot are executed in the purest gold, of twenty-two carats fineness, which is equal to that of guinea gold. It weighs ninety-five ounces, and is the largest piece of jewelled and enamelled gold plate known to have been ever made in this country. The design was only settled in January 1851, and the vase was so far completed as to be ready for transmission to the Great Exhibition by the 1st of May. We learn from the "Official Descriptive and Illustrated Catalogue" that "the group surmounting the cover represents the United Kingdom, by the figures of Britannia, Scotia, and Hibernia. Britannia is in the centre, resting one hand on the trident, Hibernia is on her right, and Scotia on the left. Around the edge of the cup are four heads, symbolical of the quarters of the globe; below these are festoons of diamonds, representing the rose, thistle, and shamrock. Surrounding the body of the vase are relievos, representing Britons, Romans,

Saxons, and Normans, with the landing of the Romans, and the battle of Hastings. Beneath are two figures of Fame, descending with wreaths of laurel, crowning Nelson, Wellington, Milton, Shakspeare, Newton, and Watt, whose busts are introduced in concaves; while on the lower part of the cup are the figures of Truth, Prudence, Industry, and Fortitude, accompanied by their appropriate emblems."

The excellence of English jewellery is by no means a thing of to-day, as the most cursory examination of the subject will prove. The torques, armillæ, collars, and other decorations, which are constantly exhumed from the barrows of England, Ireland, and Scotland, display a dexterity of manufacture, rivalling the most perfect productions of Etruria. The Saxons were celebrated for their metal-works, as the proverbial reputation of St. Dunstan testifies. In an interesting article on Saxon Jewellery, contributed to the Archæologia by the Rev. Mr. Pegge, he mentions, quoting the Venerable Bede, that when Gregory the Great despatched Mellitus Paulinus and others, to assist Augustine in converting the Saxons, they brought with them into England many sacred vessels, which no doubt served as the primitive types from which the forms of subsequent church-plate were derived. We find that in the year 700, the travelled Wilfred, who imported many foreign workmen into England, was in the possession of large quantities of plate and jewels. King Oswald (A.D. 631) is related by Alcuin to have endowed churches with every variety of goldsmiths' work. Eddius distinctly describes costly articles in gold and gems to have been executed by "*inclusores gemmarum,*" or jewellers; and speaks of them as at that time common and ordinary artificers. Bede mentions that Bishop Benedict brought workers in glass with him from France, and it is, perhaps, to them that we may owe many improvements in enamels and factitious gems. The same prelate also imported sacred vessels, and from his time down to the year 800 we meet with constant accounts of the most princely donations to the treasuries of the monasteries; the great majority of the component parts of which are described as being made by native workmen. William of Malmesbury states that the solid silver shrine containing the relics of the martyr St. Aldhelm, which were placed in that receptacle by King Ethelwolf, was decorated with representations of the miracles of the Saint, executed "*levato metallo,*"—*i. e.*, in chased-work. Whether these incisions were filled with enamel we cannot tell; but the ring of the monarch, which is so ornamented, and which is now preserved in the British Museum, clearly demonstrates the use of enamel-pastes at that time,—A.D. 800. The curious ring of Alhstan, bishop of Sherborne, is of the same period, and bears an enamelled inscription. The "Saxon Chronicle" describes Alfred as instructing his goldsmiths and all other artificers during the intervals of his more important occupations. As the art of enamel obtained a firm footing in England, there is no reason to doubt that many such works mentioned in the inventories of the earlier sovereigns were executed by native workmen. During the reigns of the Edwards, under the Odos and Fitz Odos, vessels and ornaments of silver, copper, and gold, were constantly decorated with this elegant embellishment.

From the "Royal Inventories" and "Household Expenses," the "Liberate Rolls," the "Mappæ Clavicula," the "Historia Eliensis," and other sources, many curious particulars respecting ancient jewellery may be gleaned. The Great Seals and Monumental Effigies of English monarchs also illustrate the application of jewellery to personal ornament. The Wars of the Roses not only impeded the progress of the goldsmith's art in England, but of necessity caused the destruction of many precious objects. The art subsequently revived, and the inventories of Henry VII. and Henry VIII. prove their possession of almost unbounded riches. The quantity of the precious metals which at that period inundated Spain was not without its effect in this country, and led to the general adoption of rich personal ornaments and other decorations. This influx of gold and silver was worthily applied to artistic purposes by the celebrated Holbein, whose designs will ever remain an honour to the industrial arts of this country. This great artist was born at Basle in 1498. He was introduced here by the Earl of Arundel, and not only painted the portraits of the English nobility, but decorated their persons by beautiful articles of bijouterie, a constant succession of which he designed. In the British Museum is preserved a celebrated volume containing designs by Holbein for these objects. Several of them have been engraved by Hollar, by Mr. Shaw, and others. It is to be regretted that after the death of Holbein (in 1554) no very remarkable progress was made in this art. Under the House of Orange, the English jewellers were content to follow at a distance the designs of French and Flemish *petits maîtres* rather than to organise a style for themselves, and it is not until within very recent years that any considerable endeavour has been made to introduce novelty of form into the ordinary objects of the goldsmith's art.

F. SMALLFIELD DEL.

M. DIGBY WYATT, DIREXT.

F. BEDFORD, LITH.

GOLD VASE, ENRICHED WITH JEWELS AND ENAMELS
BY WATHERSTON & BROODEN OF LONDON.

LONDON, PRINTED AND PUBLISHED JUNE 1ST. 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE LXVII.

LUCA-DELLA-ROBBIA FRIEZES,

BY MINTON OF STOKE-UPON-TRENT.

In the year 1850 Mr. Minton became the possessor of a terra-cotta frieze which was offered for sale in London. The graceful execution of that work attracted the attention of several gentlemen of taste, and particularly of the Baron Marochetti, who expressed his conviction that it had been wrought by the hands of Luca della Robbia himself. Mr. Minton, having attentively considered the means by which the effect of this object was produced, conceived that he could successfully imitate the material, and accordingly caused the artists in his employment to model a variety of objects upon which experiments might be made. The success of those attempts was manifested by the perfection of the specimens contributed by Mr. Minton to the Great Exhibition.

We shall proceed to offer a few remarks on the life and works of the immortal inventor of the material which has so long borne the name of "Della-Robbia" ware:—

From the gossiping, but always delightful, biography of Vasari, we gather that Luca della Robbia was born at Florence in the year 1388, and that on his arriving at the proper age he was apprenticed by his father, whose name was Simone the son of Marco, to a certain Leonardo di Ser Giovanni, a goldsmith of note in the same city, under whose instruction he learned in a short time to draw and model in clay and wax. At the early age of fifteen years, Luca was taken to Rimini, to work for Sigismondo Malatesta, and his labours there gained him the appointment of one of the sculptors to the celebrated Campanile of Giotto, at Florence. The nature of the subjects he carved there, and their mode of treatment, indicate how deeply he had drawn for inspiration on classical sources at that comparatively early age. The admiration these figures obtained induced the cathedral authorities to entrust to him the sculpture of the celebrated organ-gallery over the door of one of the sacristies, Donatello executing a somewhat similar work on the opposite side of the church. The date of this event Vasari places as early as 1405; but Rumohr* makes it as late as 1438, and apparently with justice, as he gives a copy of the order by which Luca was bound to execute the subject. It was probably while engaged in the execution of an exquisite bronze for the same sacristy that he made that discovery which alone would have sufficed to immortalise him. This was,—that a clay model, baked and covered with a vitreous glaze, became perfectly durable, and might be exposed to the action of the elements for a length of time without suffering at all. This curious glaze, which remains to the present day uncracked, and unchanged in colour or texture, on all his productions, is by Vasari (and Baldinucci, following him) described to have been composed "of tin, a kind of fire-clay (used by metal-founders), antimony, and other metals."† Both authors agree, that the first work executed by Luca in this manner was the group of the Resurrection, over the bronze door; and the second, the subject of the Ascension, over the entrance to the second sacristy in the cathedral at Florence.

The glaze at first was colourless, or pure white, but the ingenious artist soon learnt, by the admixture of various metallic oxides, to enrich what may be termed his transparent enamel with various colours; and in this way he was enabled to decorate both basso and alto-reliefs with various tints. We accordingly find

* Italienische Forschungen.

† "Fatto con stagno, terraghetta, antimonio, ed altri minerali."

in Rumohr, the copy of an agreement dated A.D. 1446, whereby Luca engages to execute for the Cathedral "an Ascension with the twelve Apostles and the Holy Virgin, in his *terra cotta invetriata*, of the same material as that placed in the arch of the sacristy, and to introduce colour into the mountain and trees."

The fame of the invention soon spread abroad, and orders poured in from all quarters, not only from the Florentines, but even from France and Spain. Luca himself could not execute all these orders, and he was obliged to call to his aid two assistants, Ottaviano and Agostino; the former his brother in blood, the latter his brother only in affection and profession. Vasari, Baldinucci, and Cicognara all agree in making Agostino really the brother to Luca; but from the documents cited by Rumohr, and by Mariotti in his "Lettere Perugine,"* there can be but little doubt that these three great authorities are in error on this occasion, and, unfortunately, their names have sufficed to make the fallacy a popular one. Be this as it may, it is at least certain, that Agostino and Ottaviano assisted Luca in carrying out this invention, greatly to their mutual profit, and that any difference that may exist between their works is that of degree only, and not of kind. Until Luca's death, which, according to Lord Lindsay, took place in 1480, but which other authorities have placed as early as about 1460, he continued labouring diligently in his favourite material; and through his own efforts, and those of his family, all that amazing quantity of works in *terra cotta invetriata* that ornament Tuscany to this day were produced.

Agostino, though not perhaps possessed of the creative genius of Luca, was still an admirable artist, as a minute examination of the beautiful façade of San Bernardino at Perugia, the most remarkable work ever executed in the material under consideration, must convince the most sceptical. The Confraternitá of San Bernardino resolving, at the instigation of Ludovico Forni, in the year 1460, to case the front of the chapel erected in honour of their patron saint, in the most elaborate and beautiful manner possible, summoned Agostino in the following year from Florence, and placed their work in his hands.

His design, which covers the whole façade of the chapel, is extremely beautiful, and we are quite at a loss to convey by words any satisfactory idea of the grace with which the minutest details are executed—the charming expression and freedom of the figures—or the pleasing effect produced by the colour, and varied texture of the materials employed. These consist of a reddish marble, deepening here and there to a chocolate colour; a pure white marble; and the blue "faience," or "della Robbia," terra cotta, which serves as a ground to "throw up" the figures in relief.

Agostino has engraved on this, his *chef d'œuvre*, an inscription to the following effect:—"Augustini Florentini Lapicidæ;" and the "Italienische Forschungen" supplies us with a copy of the original order addressed to the treasurer of the Municipality of Perugia, on the presentation of which Agostino was to receive the sum of one hundred florins (forty bollæ to each florin) as remuneration for his labour in the fabrication of this beautiful specimen of art.

After the death of Luca, Ottaviano, and Agostino, their mantle appears to have fallen on Andrea, the son of Marco, another brother of Luca; and in his hands, and those of sundry cousins, the secret was religiously kept. The popular opinion, based on Vasari's account, appears to be, that with the family expired the secret; but Baldinucci throws some light on this period of its existence. He asserts, that the secret of applying these vitreous glazings to terra cotta passed through a female relation of the Della-Robbia family into that of Andrea Benedetto Buglioni, who lived as late as the time of Verocchio. This Andrea conducted many works, both in and out of Florence, among which were a Resurrection and some angels in the church of the Servi; and various other specimens in the churches of San Pancrazio, San Pietro Maggiore, &c. Andrea Buglioni bequeathed his "craft and mystery" to his son Santi, at whose death, in the year 1568, the process passed into an oblivion from which it has never been recalled, though many efforts have been made to effect its resurrection: the most strenuous and successful appear to have been those of Antonio Novelli, a sculptor of the seventeenth century, and he would seem to have failed only from his own irritability and impatience. Rumohr intimates, in a correct and almost prophetic spirit, that in these days of scientific chemistry, and increased mechanical and manufacturing resources, the revival of this elegant art would be as easy as it might be made graceful. That under the hands of Mr. Minton it will receive its highest developement we have neither fear nor doubt.

* "Come io Aghostino d'Antonio, schulptore Fiorentino abitatore in Perugia e Fabbrichatore de la Fazata di Sto Bernardino della detta Citta," &c. It is to be noticed that in this extract the name of Agostino's father is mentioned as Antonio, whereas that of Luca, all agree, was Simone. The only possibility of Rumohr's error is that the "d'Antonio" may not be a patronymic, but only indicative of the apprenticeship of Agostino.

H. MAYE, DEL. M. DIGBY WYATT, DIREXT. F. BEDFORD, LITH.

LUCA DELLA-ROBBIA FRIEZES BY MINTON OF STOKE UPON TRENT.

PLATE LXVIII.

INDIAN MANUSCRIPTS.

We cannot be surprised to find that the harmony of colouring, which was so essential and distinctive a characteristic of the fabrics contributed to the Great Exhibition from the continent of India, should pervade in an equal degree their illuminated manuscripts. Every reader of the "Arabian Nights' Entertainments" must remember the unction with which the most favourite tales and romances of the East are directed to be recorded in letters of gold; and our earliest received ideas of Oriental luxury would be imperfect, if they did not include the decoration of the labours of the scribe with ornaments as glowing and as florid as the language of the author.

Although it appears that the "Rig-Vedas," and other early poems of India, are usually written in a simple manner, and frequently with a style on leaves of the nature of papyri, no sooner did the Mahommedan dynasty obtain power and influence than we find the royal edicts and other documents glowing with the rich colouring and ornamentation peculiar to the followers of the Prophet. There can be little doubt that the intercourse which existed between Nusher Van of Persia and the court of Byzantium, and the frequent interchange of artists which took place between those countries, led to a corresponding extension of the art of illumination.

We are told by Sir Frederic Madden, in his interesting introduction to Mr. Shaw's "Illuminated Ornaments," that "the process of laying on and burnishing gold and silver appears to have been familiar to the Oriental nations from a period of remote antiquity; and although there are no instances of its use in the Egyptian papyri, yet it is not unreasonable to believe that the Greeks acquired from Egypt or India* the art of ornamenting manuscripts in this manner, which they, probably, conveyed to the Romans. Among the later Greeks the usage became so common that the scribes or artists in gold were termed *crusographoi*, and seem to have constituted a distinct class." The great luxury of the age of Constantine appears to have been that of writing in letters of gold on a vellum tinged with a purple colour. Sir Frederic Madden observes, that the earliest instance of this practice is recorded by Julius Capitolinus, in his life of the Emperor Maximinus the younger, to whom his mother made a present of the poems of Homer, written on purple vellum in golden letters. "This took place at the commencement of the third century. For upwards of 100 years the practice seems to have continued to be of rare occurrence; but towards the end of the fourth century, we learn from a well-known passage of St. Jerome that it had become more frequent. It was, however, confined solely to copies of the Scriptures and devotional books, written for the libraries of princes and for the service of monasteries. The celebrated *Codex argenteus* of Uphalas—written in silver and gold letters on a purple ground, about the year 361—is, perhaps, the most ancient existing specimen of this magnificent mode of calligraphy; after which may be instanced the copy of Genesis at Vienna, the psalter of St. Germain des Près, and the fragment of the New Testament in the Cottonian Library (Titus, c. xv.),—all executed in the fifth and sixth centuries."

It will be remembered that the caliphs of the race of the Abbacide made frequent applications to the emperors of the East for permission to copy such writings of the Greeks and other ancient authors as had been preserved amid the wrecks of the learning of the classical ages, and we cannot but observe that a

* An interesting illustration of the reaction upon each other in successive ages of the arts of different countries is afforded by the suggestion, that that art, which was ultimately transmitted to the Indian continent through the agency of the later Greeks, may, possibly, have been originally acquired by their predecessors from the source to which it was subsequently reconveyed.

remarkable opportunity was thus afforded to the Mahommedan races of reproducing the matter of those authors in the manner peculiar to the Byzantine scribes. Hence that race, which was destined subsequently to spread itself so largely over the face of the globe, acquired in their practice of illuminating manuscripts, as in their architecture, many of the details of that style which was carried to such remarkable perfection under the auspices of Justinian and his successors; and hence we trace in the Indian manuscripts of the present day many indications of that particular scale of colour and those forms of foliage which we generally recognise as peculiar to the remains of the art of the Lower Grecian Empire. Thus we find the richest gold and silver decorations lavished on Oriental manuscripts. Pietro della Valle, the greatest of the early Italian travellers, mentions a copy of the Gospels in Syriac, written in gold, which he saw at Aleppo in 1625, and which was reputed to have been at least 400 years old. Sir Frederic Madden observes that "at Berlin, according to Wolf, is a Hebrew manuscript of the thirteenth century, the titles and initial words of which are in gold. In the Sloane Collection, Nos. 2835–2838, are rolls in the language of Thibet, written in gold and silver on dark blue paper; and, among the Arabians and Persians, examples of later manuscripts, written and ornamented in gold and silver, are found in abundance, and display a beauty and minuteness so truly wonderful as to surpass the efforts of any European artists."

Remembering the Byzantine source from which, as we conceive, much of the art of India was derived, it is not surprising to find notices of manuscripts in which, instead of the original purple ground, a golden one was substituted, upon which the text was written in red letters and decorated with ornaments in the most brilliant colours.

It has been frequently remarked that, owing to the traditional preservation in India of ancient processes and patterns, many of the arts which its people originally derived from foreign sources still exhibit, in all their integrity, the peculiar characteristics of that nation or that influence from whence it sprung. Thus, if we examine the different Indian manuscripts in the museums of Europe, ranging from the fifteenth century to the present time, but little difference will be found to exist between them; and the decorations of the address of thanks to Sir Jamsetjee Jeejeebhoy of Bombay, executed but the other day, recall most vividly the traditions of the imperial edicts and proclamations of the court of Byzantium. As might reasonably be expected, the most exquisite illuminated manuscripts have been executed in Persia, in which country the old processes are preserved in their highest perfection.

P. HUMPHREYS, DEL. M. DIGBY WYATT, DIREXT. A. WARREN, LITH.

BORDERS FROM INDIAN MANUSCRIPTS.

LONDON, PRINTED AND PUBLISHED JUNE 1ST 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE LXIX.

A NICHE,

CARVED IN WOOD BY KNECHT OF PARIS.

THE accompanying plate presents us with a very elegant niche, enshrining a graceful figurine of the Virgin and Child, for the execution of which we are indebted to the skilful chisel of M. Knecht, who appears to have derived his inspiration rather from the genius of the German developement of mediæval art than from any souvenirs of *la belle France*. It was, indeed, too common a fault of the Teutonic school to lose sight of architectural in naturalistic ornament. It is in Germany and Flanders that the earliest monuments in wood are to be found. Thus the stalls in Frankfort Cathedral are, probably, of the early part of the eleventh century; whilst those of Poictiers and Notre Dame de la Roche, the earliest to be found in France, do not go back farther than the second quarter of the thirteenth century. These latter, however, as might be expected from the era at which they were executed, may well bear comparison with those which adorn Cologne Cathedral. Indeed, if we examine the subjects, natural and allegorical, there comprised in the decoration of a set of Misereres, we shall find that the conception and grouping indicate the employment of an artist of rare accomplishments.

However popular the new fashion of stalls might be, but little encouragement appears to have been given to the wood-carver in France during the rest of the thirteenth, or indeed during the first half of the succeeding, century; and, accordingly, few remains exist,—if we except the fittings for churches, of which vast quantities must have perished in the great convulsions of the last century. Ivory, or rather the narwal's tooth, was employed for the smaller monuments of faith and domestic life: the larger works of art were executed in stone; and the furniture, though made of wood in the first instance, was either covered with rich "tapisserie," or depended for its decoration upon the skill of the gilder, or "miniator." Sometimes, indeed, we find entries such as the following,—"Ung tableaux de boys de quatre pièces," in the inventories;* but these are rather to be noticed for their rarity than as common items. The chief employment for the sculptor in wood besides the stalls, consisted in the occasional decoration of the wooden houses of the *bourgeoisie*, which class about this time acquired wealth, importance, and a taste for luxuries. The fifteenth century at length dawned, and in it nearly every great artist was more or less engaged in the occupation of wood-carving, either as a sculptor or designer.

The execution of the immense number of figures, many of them as large as life, required to decorate the bracketting of the wooden houses, more especially at the corners of the streets, must alone have given employment to a very large number of artists. Many of these are to be found in museums, though few only in their original positions. Thus, the town of Troyes, which at one time must have numbered its wooden statues and bas-reliefs by thousands, at the present day can hardly show more than twenty. Amateurs and antiquaries have anticipated by centuries the ravages of time; and many an uneven surface, indented with a few saw-marks, is the sole record marking the spot where once stood the patron-saint—the pride of the bourgeois—the *chef d'œuvre* of the sculptor! On examining these figures, we are at once struck with a certain sharpness in the features and the principal lines, due, in a great measure, to the character of the material. The sculptor knew well where to apply his chisel; and one unerring stroke was sufficient. There

* See the inventory of Chas. VI., A.D. 1379 (La Carte). Girard d'Orleans was the artist.

was no rubbing or filing afterwards; as it was left by the chisel, so it was put up, and so it remained,—unless, as was frequently the case, it was considered desirable to enrich it with colour.

Another occupation of the wood-sculptor was the preparation of those large "retables" and "triptichs," which about this time came into general use, for decorating the altars of the churches. These were often of great size; and although those in France seldom reached up to the vaulting of the church, as they frequently do in Germany, whence the fashion was derived, yet very few will be found in the latter country to compare in beauty with the two now preserved in the museum at Dijon. Many were the triptichs executed in France during this and the ensuing century, but the various causes which have wrought so much destruction to works of art in that country have rendered them very scarce. Detached figures, which have once formed parts of them, may, indeed, be frequently met with; but it is much to be doubted whether they were ever so much in use as in Germany. The fifteenth century saw the use of ivory, in a great measure, laid aside, as a material for devotional ornaments, and wood substituted in its place, with such success, that many of the small objects—such as rosaries, &c.—are executed in so delicate a style, that they possess the refinement of gems rather than that of mere wood-carvings. Thus we often find a space of two inches long by half-an-inch deep containing several figures, bas-reliefs, inscriptions, &c. With respect to the application of wood-carving to the stalls of the later Gothic style, many of these still remain in the churches and cathedrals. By far the finest of all are those of Amiens,* executed in 1508: Jean Turpin was the principal workman; and Antoine Avernier, *tailleur d'images*, carved the *subsellæ*, at thirty-two sols each.† On comparing these stalls with the nearly contemporary ones at Ulm, we cannot but be struck with the superiority of the work of Jean Turpin. So little were these monuments appreciated in France during the last century, that in 1760 the Abbé Laugier bitterly reproached the canons for not pulling down what he describes as being "chargés d'un amas de petits colifichets tudesques."

In the sixteenth century the furniture, which had formerly received but little sculpture, properly speaking, was covered with all the delicate ornamentation of the Renaissance. During the reigns of Charles VIII. and Louis XII., and the early part of that of Francis I., there is little to object to, since the ornament is always graceful. When a more ambitious Italian style, influenced by the school of Michael Angelo, was introduced into France, all became changed. It is true that the composition and drawing of the figures were improved; but the arabesques disappeared, and were succeeded by scrolls and flowers, which gradually grew heavier, until, at the end of the reign of Henri II., they became absolutely ugly. Mythology usurped the place of sacred subjects, and is often found connected with them in a most ludicrous juxtaposition. Still, the great masters of the Renaissance by no means neglected the art. Jean Goujon executed the doors of St. Maclou at Rouen, and many of the wood ornaments at the château of Ecouen; and Primaticcio and Giulio Romano furnished designs for the carved-wood decorations of the royal palace of Fontainebleau. The art long continued to be practised by monastic workmen. Thus we find in the Musée de l'hôtel de Cluny an *armoire*, or large cupboard, in walnut wood, made by the monks of Clairvaux, and presented by them to their abbot in the reign of Henri II. The chief ornaments of this, as well as of most of the other *armoires* of the time, consisted of sundry Caryatides.

About the end of the sixteenth century one mannered style pervaded all Europe. It is true that many of the wood-fittings at St. Cloud and Versailles are imbued with that regal splendour of style which distinguished the earlier years of Louis XIV.; but in that of his successor this temporary elevation sunk again into degradation, and the labours of the wood-carver were principally confined to furniture, and the execution of large gilt candlesticks and altar decorations of equivocal taste. It is not to be imagined, that because the larger works were at the above low ebb the smaller ornaments suffered equally; on the contrary, many of those are really valuable as works of art. They consist, for the most part, of small copies of some well-known antique groups of figures in *la style bergère;* of beggars, represented half in wood and half in ivory; of small likenesses, and occasionally of statuettes. All this ceased at the great Revolution. Men were too much immersed in politics to occupy themselves in the arts. The career of Napoleon brought security but not peace,—and it was not until the restoration that wood-carving began to revive. How rapid its progress has been of late years was attested by the exquisite delicacy of the works contributed to the Great Exhibition by MM. Lienard, Knecht, Gruel, Fourdinois, Ringuet le Prince, and others.

* Messrs. Jordain and Duval have published a most excellent work on the subject.

† The total cost was 11,230 livres, 5 sols.

SOUTH KENSINGTON LIBRARY OF THE BRITISH BRANCH OF THE ROYAL SOCIETY

J. A. VINTER, DEL. M. DIGBY WYATT, DIREXT. F. BEDFORD, LITH.

NICHE AND FIGURE, CARVED IN WOOD BY KNECHT OF PARIS.

LONDON PRINTED AND PUBLISHED JUNE 15TH 1852, BY DAY & SON LITHOGRAPHERS TO THE QUEEN

PLATE LXX.

DAMASK TABLE-COVERS,

BY ERSKINE BEVERIDGE OF DUNFERMLINE.

The subjects of our present engraving may be considered as excellent specimens of the variety and pleasing effect which may be produced in this particular material without incurring an unreasonable cost from the complexity of the design. If space permitted we would willingly trace the various steps of the manufacture, from the growth of the raw material to the finished article, believing, as we do, that they are by no means so generally known as the corresponding processes in cotton and woollen fabrics. It must suffice, however, to indicate the most important. The flax-plant is extensively cultivated in Holland, and in the district about Riga, and although the flax hitherto grown in Great Britain has been inferior to that of the first-named countries, it is to be hoped that the attempts which have been recently made to improve its cultivation in Ireland will be ultimately crowned with success. After the flax-plant has been gathered and dried in stacks, it is steeped in water to remove the glutinous matter which unites the fibres; having been again dried, it is subjected to the process of "breaking," or "scutching," by which the bark and woody portion of the plant are separated from the stringy fibres. It next undergoes the operation called "heckling," a kind of combing, which reduces the material to the silky texture for which it is remarkable; and it is then no longer known by the name of flax, but is called "line;" while the coarser portion, which is separated in the process of heckling, is called "tow."

The "line" next passes through the several operations of spinning, by which it is converted into linen yarn, and if intended for weaving it is reeled into hanks containing about three thousand yards. Flax, unlike cotton, silk, or wool, is spun wet, and within the last few years it has been discovered that it can be spun to a much greater degree of fineness with hot water than with cold. In another respect the manufacture of flax differs from those of cotton or wool: the latter are exclusively carried on in large factories by the aid of a great variety of machinery; in the flax manufacture this is only partially the case, the earlier processes being to a great extent performed by hand, and a considerable portion of the weaving of the different fabrics being done by the handloom at the houses of the operatives.

Damask is one of the most beautiful articles produced by the loom from linen yarn. It is a twilled fabric, and much used for table-cloths. Dunfermline, in Scotland, and Ardoyne and Lisburn, in Ireland, are celebrated for the beauty and excellence of their manufactures. Brown damask is the same article unbleached, and being deemed stronger in that state, is used as more economical. Diapers are damasks of smaller size and simpler patterns. There are also union damasks and diapers made of linen and cotton combined.

In the following account of the manufacture of this article, we have much pleasure in acknowledging the valuable information which has been most kindly furnished us by Mr. Erskine Beveridge of Dunfermline.

The damask manufacture was introduced into Ireland about 1764, and at the present time the finest quality of Irish damasks is not excelled, if it is even equalled, by the choicest products of Saxony. These fabrics may be divided into two classes, one consisting of the finest double damasks, and the other of single damasks and diapers. The first-named may be considered as articles of luxury, not so much from the intrinsic cost of manufacture, which is not great, but from the great expense incurred in getting up special designs. The second division comprises the great bulk of coarse goods for home sale and export. Cheapness being the chief

desideratum, they are produced at a price so low as to encourage their consumption among all classes of society. The principal export is to the United States of America. As yet the Continental markets have scarcely been tried, although notwithstanding the high rate of duty, it is probable that there would be a considerable sale of the lower priced fabrics. To all who have seen the coarse plain linen with which the tables of the middle classes in France and Germany are generally covered, it will be evident that diapers, or single damasks, would be much preferred among a people so alive to the embellishment of their houses and the tastefulness of their furniture.

In Scotland Dunfermline takes precedence in the manufacture of fine linens, as damasks, &c., and claims the honour of its early introduction into that part of the country. According to a tradition devoutly believed in by the natives of the place, a citizen of the name of Blake, about the beginning of the last century, gained access to the weaving factory at Drumsheugh, near Edinburgh, by feigning imbecility, and carried away with him the mysteries of damask weaving to enrich his native town. Whether this be a myth or a true tale, it is certain that with the exception of a small carpet-factory in the deserted monastery, no textile fabrics were at that time produced in the locality, excepting a few huckabacks, bed-ticks, and linsey-woolseys; and it was not till nearly the last decade in that century that the damask trade acquired. sufficient importance to attract London buyers. The competition among these gentlemen then became so strong that many amusing anecdotes are still related of the manufacturers concealing a portion of their stock, lest the buyer should purchase the whole, and leave them nothing to show to the next comer.

At that early period the designs were so rude, and the workmanship so imperfect, that it was by no means uncommon to see a bird with a *hiatus* of half-a-yard between the body and head; while trees and flowers, which it would puzzle a Linnæus or a Paxton to classify, formed the staple of the patterns then in vogue. About the beginning of the present century a better taste began to prevail, principally through the exertions of Mr. J. N. Paton (father of the celebrated artist). The introduction of the Jacquard loom, by giving greater precision to the patterns, and increased facility of production, lent a fresh impulse to the trade; and in 1830, the establishment of the late Drawing Academy by the manufacturers and the Board of Trustees for promoting Scottish Manufactures, still further developed its resources.

From that time to the present the productions of the Dunfermline looms have gradually improved, both in excellence of fabric and of design: many new textures have also been introduced. Diapers, huckabacks, sheetings, floor-cloths, counterpanes, white-on-brown and bleached damask cloths, and table-covers of every colour and material, are all extensively manufactured there. Between five and six thousand persons are employed in their production. Of these, the brown and bleached table-cloths are the most important items; and next to these the coloured table-covers, which, like Birmingham guns and Sheffield knives, are found in every quarter of the world, from the shanties of Kentucky to the mosques of Damascus, the ancient metropolis of the damask trade. It is now about twenty-five years since the manufacture of damasks was introduced at Dunfermline: the first articles of the kind were of coloured cotton on white linen, the patterns being of the old table-cloth designs. The specimens engraved were exhibited by Mr. Beveridge, who employs upwards of 1500 workers, partly in his steam and hand-loom factories, and partly at their own homes in the various branches of the trade. The lower design is from a drawing by Mr. Owen Jones; and the upper was composed by Mr. Waller Paton, a young artist of the town, who is successfully prosecuting the study of his art. There cannot, we think, be a doubt, that the late Exhibition tended materially to improve the character of the designs of the Dunfermline productions; for not only were the best efforts of the artists on the spot called into activity, but sketches were procured from artists of distinction, both native and foreign. The number of cards employed in these examples is only about 2400, while for some of the table-cloths by the same exhibitor, such as the Cupid and Psyche, and the George and the Dragon, from sixteen to twenty thousand were required, and the expense of patterns and cards exceeded 150*l.* for each. The yarns used for the Dunfermline table-linen are principally procured from Leeds, Preston, Belfast, and Dundee. From the present healthy condition of the trade of the district there is every reason to expect that it will attain a developement little anticipated by those even who, like Mr. Beveridge, have the most contributed to its present high position.

A. AGLIO, DEL. M. LIGLEY WYATT, DIREX. BEDFORD, LITH.

TABLE COVERS BY ERSKINE BEVERIDGE OF DUNFERMLINE

[illegible]

PLATE LXXI.

PAPER-HANGING,

BY W. WOOLLAMS AND CO., OF LONDON.

THE specimen of paper-hanging from which our plate was engraved was originally displayed at the third exhibition of recent British Manufactures and Decorative Art, at the Society of Arts, in 1849, on which occasion a silver medal was awarded by the Council for this and other productions of the same firm. Every colour in the pattern, it may be scarcely necessary to remark, is printed from a separate block, and we have ascertained from the manufacturers that between sixty and seventy blocks were required for the pilaster alone; while those for the whole design have cost no less than £140.

The establishment of Messrs. Woollams was originally founded by Mr. William Woollams, Senior, the father of the gentlemen who now conduct it, and his knowledge of the principles and practice of the business were acquired in the celebrated establishment of Mr. Sherringham, of Great Marlborough Street.

In our notice of Plate XLII. we traced the progress of the rich hangings which preceded the employment of paper as a mural decoration in England, and we shall now endeavour to examine the commoner substitutes which were used by the middle and poorer classes.

Tapestry, it may readily be imagined, from its costliness, was hung only in the more important apartments and halls, whilst in the ordinary rooms materials of an inferior description were employed, which, though often called tapestry, were probably only cloths or canvas, stained or painted in oil, or with a resinous size, generally strained on frames and fixed to the walls. Theophilus* described the method of painting walls, &c. with oil paint, and Cennino Cennini (1437) treats on the methods of painting in oil on wood in panels and on walls, a practice, he says, much used in Germany ("che l'usano molto i Tedeschi"). Sir Charles Eastlake, in his valuable work, "Materials for a History of Oil Painting," gives a very interesting account of the cloth-painting of the English and Germans, and their peculiar process of tempera:—

"In the Treviso record preserved by Guid' Antonio Zanetti,† mention is made of a German mode of painting (in water-colours) on cloth. This branch of art seems to have been practised on a large scale in England during the fourteenth century, so as to attract the notice of foreigners. The following passages occur in Le Begue's copy of the MSS. of Alcherius, 'Item, in the same original it is thus written: On Tuesday, the 11th day of February, 1410, I caused a copy to be made in Bologna of certain receipts lent to me by Theodoric of Flanders, an embroiderer at Pavia, which receipts the same Theodoric said he had obtained in London, in England, from the artists who used the water-colours hereinafter described.' The transcriber resumes: 'After the above, it was thus written in the original,—The aforesaid Theodoric, from whom I had these receipts, said that in England the painters work with these water-colours on closely woven linen, saturated with gum-water. This, when dry, is stretched on the floor over coarse woollen and frieze cloths, and the artists, walking over the linen with clean feet, proceed to design and colour historical figures and other subjects. And, because the linen is laid quite flat on the woollen cloths, the water-colours do not flow and spread, but remain where they are placed, the moisture sinking through into the woollen cloths underneath, which absorb it. In

* "De Diversis Artibus Schedula."

† "Trattato della Pittura."

like manner, the outlines of the brush remain defined, for the gum in the linen prevents the spreading of such lines. Yet after this linen is painted, its thinness is no more obscured than if it was not painted at all, as the colours have no body.' It is remarkable that a native of Flanders, not unacquainted with art, should notice this practice in England, and record the process and materials, for the inference is, that the peculiar method he describes was not practised in his own country at the period in question. In the beginning of the fifteenth century, the ordinary tempera-painting was certainly common in the Netherlands, rooms being then, as Van Mander states, frequently hung with large works of the kind (executed with egg-and-size colours), instead of tapestry. He remarks this when speaking of Roger of Bruges, a scholar of Van Eyck, and continues, 'I have such hangings at Bruges, which I am inclined to think were executed by him.' The peculiarity of the English method appears to have been its absolute transparency.

"As regards the English and German paintings on cloth, there can be little doubt that the thinness of execution for which they were remarkable, though it did not preclude gilding, was adopted with a view to durability. Sandrart affirms that the ordinary (more solid) tempera had been found not to last in the Netherlands, meaning that it was affected by damp. The priority of records respecting the vehicle is in favour of England; indeed from a passage in an early manuscript it may be inferred that the process, such as it was, had been borrowed by the Germans from this country. It is possible that the result of this method of tinting linen was to produce something analogous in appearance to our present printed cottons, for 'A drawing sent by Albert Durer to Raphael is described by Vasari as having been painted 'in water-colours on a fine linen cloth, which showed the transparent light on both sides, without white, water-colours only being added, while the cloth was left for the light; which thing appeared wonderful to Raphael.'' Whatever method of colouring may have been used, the style of the decoration seems to have been of the same character."

Mr. Hunt observes that "The devices employed in the oil-painted decoration and in water-work are shown by Falstaff's address to Mrs. Quickly to have been similar to those which were used in the better sort of tapestry, 'and for thy walls a pretty slight drollery or the story of the prodigal, or the German hunting in water-work, is worth a thousand of these bed-hangings and these fly-bitten tapestries.' But the mottoes being adapted to less elevated orders of society, were in a more familiar style. Dr. Bulleyne, in a work entitled 'A Dialogue both Pleasant and Pitiful,' &c. 1564, says, 'This is a comelie parlour, and faire cloths, with pleasant borders aboute the same, with *many wise sayings painted upon them.*' The style and point of these *wise sayings* are displayed in a publication of 1601:—

'Read what is written on the *painted cloth*,—
Do no man wrong; be good unto the poor.
Beware the mouse, the maggot and the moth;
And ever have an eye unto the door.'

"And Shakspeare, in his 'Rape of Lucrece,' says,—

'Who fears a sentence, or an old man's saw,
Shall by a *painted cloth* be kept in awe.'"

Archdeacon Nares defines *painted cloth* "as a species of hangings for rooms very frequently mentioned in old authors, and generally supposed and explained to mean tapestry; but which was really cloth or canvass painted in oil, with various devices and mottoes." It is related that "Mayster Thomas More in hys youth devysed in his father's house, in London, a goodly hanging of fyne painted clothe, with nyne pageauntes, and verses over every of these pageauntes."

These painted cloths were also imported as well as tapestries, for we find that in the insurrection of the Londoners against the foreign traders on May-day, 1517 (the Evil May-day as it was long called), amongst the goods of the importations of which by the "merchant strangers" complaints were made, painted cloths are mentioned. In the seventeenth of Elizabeth, in a petition addressed to the Commons, the painters set forth, "that painting on cloth is decayed." It is probable that other forms of surface decoration were introduced at that time, such as embossed leather, with gold ornaments on coloured grounds; the pannelling of walls also, and perhaps hand-painted paper-hangings, for from statutes in France of the date, 1586, paper-staining is found to be a recognised trade.

M. DIGBY WYATT. DIREXT.

F. BEDFORD DEL. ET LITH.

PAPER HANGING BY WOOLLAMS OF LONDON

LONDON: PUBLISHED BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE LXXII.

INDIAN KINCOB PATTERN,

IN WHITE SILK AND GOLD THREAD.

In our notice of Plate XXIV. we entered at some length upon the subject of the principal localities of the continent of India, in which the richest manufactures of the above description are produced; and in our observations upon Plate XII. we referred to the process by which the gold thread, or *badla*, is prepared for the use of the weaver. On the present occasion we shall confine our remarks to the peculiar effects arising from the combination of a metallic lustre with silk and other materials.

Any conclusions to which we might ourselves have arrived concerning the principles which should guide the designer in the arrangement of patterns for such fabrics have been, in a great measure, forestalled by Mr. Owen Jones, who, in his interesting Lecture on the employment of Colour in the Decorative Arts, and in his Catalogue of the Articles purchased from the Great Exhibition for the use of the School of Design, has entered with zeal and ability into a consideration of those sources of expression by the command of which the Indian designer is enabled to produce his most harmonious and brilliant effects.

In the lecture above referred to Mr. Jones remarks, that the fundamental principles upon which gold should be used in combination with colour in decoration are as follows:—Firstly, that where ornaments of any colour are upon a gold ground, the ornament should be separated from the ground by an edging of darker colour. The reason he alleges for this principle is, "that the gold ground, from its greater power, has a tendency to invade, and overflow on to the coloured ornament, and this is at once arrested by the darker edging." Secondly, that gold ornaments on any colour should be outlined by black. The principle involved in this dogma is precisely the converse of the preceding proposition; since in the one case the black line keeps the ground, and in the other the pattern, within its proper limits. Thirdly, that ornaments of any colour may be separated from grounds of any other colour by edgings of white, gold, or black. The reason assigned for the peculiar qualification of gold as a vehicle for rendering outline distinct, and preventing the confusion or merging of contrasted colours, is, that it acts as a neutral, and by its interposition "prevents the simultaneous contrasts from being sensibly felt, and preserves the integrity of the colours." Fourthly, that "ornaments in any colour, or in gold, may be used on white or black grounds without outline or edging; the white ground, reflecting all the rays, destroys by its superior intensity the white rays reflected by the coloured body, and its form becomes perfectly defined. The black ground absorbs all the rays, or reflects but very feebly white rays, so as scarcely to modify the colour juxtaposed." Mr. Jones observes, in reference especially to Indian fabrics, that "when gold ornaments are used on a coloured ground, where the gold is used in large masses there the ground is darkest, and where the gold is used more thinly there the ground is lighter and more delicate. When a gold ornament is used on a coloured ground, the colour of the ground is carried into it by ornaments or hatched work in the ground colour on the gold itself."

It is a fortunate circumstance for the students of design in this country that a collection of such specimens of Oriental fabrication as best illustrate the accuracy of these principles should have been purchased by the Government for their use. In them we may remark how frequently the general effect and harmony of the whole has been assisted by what, at first sight, would appear to be a defect in the process of manufacture.

INDIAN KINCOB PATTERN, IN WHITE SILK AND GOLD THREAD.

Where a warp consists of gold or silver thread, the threads of the weft being brought to the surface enrich it with a geometrical or conventional pattern. The necessity so to interweave the coloured weft with the gold warp thread as to form the network which holds the fabric together, exactly produces that subdued repetition of the pattern colour throughout the golden ground which serves to prevent the pattern from appearing cutting, or too harshly relieved from the ground itself.

When we recur historically to the long chain of experiments which have been steadily worked out, so as to afford a satisfactory solution of the problem how best to unite the precious metals with colour, we shall find that they have been proceeding from the earliest antiquity. In Mr. Yates's valuable work on the Weaving of the Ancients, we find many allusions to cloth of gold, as well as to gold united with silk and interwoven in patterns. Throughout the Roman empire fabrics of this description were well known and popular, though ruinously costly. The gold and silken webs of the island of Cos are frequently alluded to in the writings of the poets and satirists. The Babylonian stuffs are mentioned by Dr. Royle "as being adorned both with gold and variously-coloured figures. A peacock's train is compared to a figured Babylonicum enriched with gold; while the peplum, or shawl, had the greatest skill and labour bestowed upon its fabrication, and various objects were frequently represented upon it."

The great predilection which the Romans manifested for these golden dresses, and for golden enrichments generally, was no doubt inherited from them by their descendants, the inhabitants of the Lower Empire, long after the traditions of the fine arts had perished. Thus we find the Byzantines indulging in golden writings, in gilded mosaics, and in the richest embroidery, jewels, and enamels. From the remains which have come down to us of their attainments in these departments of the industrial arts, we have no difficulty in recognising the fact that they had arrived at a just appreciation of the important principles to which we have alluded. Thus every colour and every pattern in their mosaics are separated clearly and distinctly from each other and from the adjacent gold ground by the fine white line of the cement which forms the junction of the tesseræ. In their enamels every coloured paste is separated from its adjacent coloured paste by the delicate thread of gold which forms the minute cells into which those pastes are inserted. In their manuscripts, where colour is applied upon a gold ground, the outline of the pattern is invariably edged with a black or white line, or shaded with a neutral colour, approaching black. In the few specimens of embroidery which remain, or of which representations have been preserved, the same system of treatment may be noticed. Thus there can be little doubt that although their theory may not have been based upon any general perception of the limits which science prescribes, still their practice was invariably systematic.

When the Moors imbibed from the inhabitants of Byzantium their first principles of design, they no doubt availed themselves of the developement which the art of blending gold and colours harmoniously had attained in the Lower Empire. We find in most of the Moorish productions a strict attention to those practices which conferred so agreeable an effect on the Byzantine works. The use of the dark line to prevent gold patterns from spreading on to coloured grounds, or gold grounds from encroaching on coloured patterns, was constantly adopted; and the introduction of the white line, to distinctly trace the contour of every form, was carried perhaps to so great an extent as to degenerate into mannerism.

That taste for gold and colours which the followers of Mahomet originally derived from the Greeks was carried by them to the East, and there at once found a congenial atmosphere. Adopted to heighten those effects of splendour, by the display of which alone the monarch could habitually awe his subjects into subserviency, the most dazzling combinations of glowing colours and gorgeous materials speedily became the essential concomitants of every *durbar*, or festival, and every religious ceremony.

Thus, no doubt, we may still trace in these golden fabrics of the East the retention and perfected treatment of those very designs which, in their earlier days, had made the glories of the court of Justinian proverbial amongst historians. The two facts that, on the one hand, the Greeks and Indians, with probably no scientific consideration of the subject, should have invariably practised a system of arrangement based upon scientific laws of which they were profoundly ignorant; and that we, on the other hand, by an analysis of their practice, should now be enabled to verify the scientific laws on which pleasing effects depend, combine to furnish an interesting evidence of the relation which invariably subsists between the tendencies of man to specific forms of the beautiful, and those immutable laws of nature which determine the conditions of all beauty in specific form.

PLATE LXXIII.

A PORTION OF A SILVER SHIELD

PRESENTED BY HIS MAJESTY THE KING OF PRUSSIA TO HIS ROYAL HIGHNESS THE PRINCE OF WALES, ON THE OCCASION OF HIS BAPTISM.

This shield is one of the finest examples which have been executed in modern times of the variety of silversmiths' work which is generally known as "repoussé," a process by means of which all the numerous bucklers, ewers, and other similar objects which decorate the private collections and public museums of Europe are executed. All who have visited those repositories must have had opportunities for admiring the beautiful works in which the revived taste for the antique was so admirably carried out by the artist metal-workers of the sixteenth century, headed by the immortal Cellini.

The centre of the shield exhibits the head of our Saviour, which is surrounded by emblematical representations of the two sacraments, Baptism and the Lord's Supper; with their Old Testament types, the striking of the rock by Moses, and the fall of manna in the wilderness. These are contained in four compartments, divided by a cross and surrounded by an ornamental border. At the extremities of the arms of the cross are represented the Evangelists, noting down in the Gospels the events they have seen and the truths they have heard; and thus communicating to all futurity the plan of man's salvation. The Christian virtues, Faith, Hope, Charity, and Righteousness, are introduced into the arabesques that rise above the figures of the Evangelists. In a band enclosing the central subjects the twelve Apostles are placed, with some reference to the emblematical figures just mentioned: thus, Peter is seen under Faith; on the right and left of him are Philip and Andrew; under Hope we find James, with Bartholomew and Simon on either side; John is placed beneath the figure of Charity, accompanied by James the Less and Thomas; under Righteousness is Paul, and on his right and left are Matthew and Judas; St. Thaddeus also is represented as going forth into the world to teach and baptize, and to propagate the faith of the Redeemer.

In the relievo which runs round the edge of the shield are represented the Betrayal, the redeeming Atonement of Christ, and his Resurrection. Another portion presents our Lord's triumphant entry into Jerusalem; in a third, the descent of the Holy Ghost, the preaching of the Gospel, and the first formation of the Church, are pictured. The fourth and principal compartment contains an allegorical representation of the birth of the Prince of Wales, and of the King of Prussia's visit to England, accompanied by Baron von Humboldt, General von Natzmer, and Count von Stolberg, and welcomed by H.R.H. Prince Albert and the Duke of Wellington; St. George and the Dragon, represented standing on the beach, sufficiently indicate the country to which the visitors are approaching. The inscription on the shield runs thus:—

FREDERICUS GULIELMUS REX BORUSSORUM
ALBERTO EDWARDO PRINCIPI WALLIÆ.
IN MEMORIAM DIEI BAPT. XXV. JAN. A. MDCCCXLII.

The whole work, both in design and execution, reflects the greatest credit on all those concerned in its production. The general idea of the subjects was suggested by the King himself, and was admirably worked

out by Doctor Peter von Cornelius, whose reputation is European. The decorative parts were designed by M. Stüler, Professor of Architecture at Berlin. The execution of the goldsmith's work and enamel was entrusted to M. G. Hossauer, assisted in the modelling by M. A. Fischer, and in the lapidary work by M. Calandrelli; the chasing was executed by M. H. Mertins.

We gladly embrace the present opportunity to present our readers with a slight sketch of the life and works of the great artist to whom we owe the beautiful design now before us, and whose name must ever be intimately associated with the history of that great movement which has given to modern German Art a life and vigour which, if it fail in all respects to excite our affections, at least succeeds invariably in stirring our passions and affecting our imaginations.

Born at Düsseldorf in 1783, M. Cornelius was placed by his father, Inspector of the Gallery of that town, at the school of Langer; but so little talent did he evince for drawing, that his masters had no hope of his advancement in this art. He, however, followed his own method with better success. Pecuniary necessity having caused him to solicit the charge of decorating in chiaroscuro the Byzantine church of the little town of Neuss, he determined to execute this work with great conscientiousness, and set himself to study the works of Raphael and the Carracci through the medium of Dutch engravings. These models, in conjunction with the striking and original forms of the architecture of the cathedral itself, gave rise to the style and taste he afterwards carried out with so much success. Even at this early date he showed a decided predilection for the antique. Shortly afterwards, in 1810, he commenced his designs from Goethe's "Faust," which were completed in 1811 at Frankfort. In the same year he visited Rome; and in the frescoes which he executed in that city and at Munich, M. Cornelius has himself indicated the feeling with which he studied the different phases of art which Italy presents to the student. Confining his labours to cartoons and frescoes, our artist has painted but one picture in oil, "A Deposition," with figures of small size. This picture he presented, as a mark of respect, to M. Thorwaldsen.

In 1820 the King of Bavaria commissioned him to paint the three saloons of the Glyptothek, at the back of the edifice connecting the Greek and the Roman sculpture contained in the wings. Of these, only the rooms at the two extremities gave any scope for the display of the artist's talent, that in the centre being but a narrow passage. In these three saloons M. Cornelius has sketched the whole story of antiquity—in the first, picturing the gods; in the last, the heroes; and in the intermediate one, to form, as it were, a link between heaven and earth, he has represented the story of Prometheus.

In 1825, while these frescoes were yet unfinished, M. Cornelius received from King Louis the title of Director of the Academy of Munich, and, at the same time, the Order of Civil Merit and Personal Nobility. He was next directed to paint in fresco the Church of St. Louis, the erection of which had just been confided to M. Gaertner. He repaired to Rome to compose the cartoons for this work, in order that he might have the advantage of studying the great Italian masters. On his return to Munich with his studies he was welcomed with a reception which will long be remembered, and which resembled the triumphal entry of a conqueror. The King himself went out to receive him, accompanied by all the artists in the capital, and a large part of the population.

The architect placed at the disposal of M. Cornelius three large wall-spaces and four vaults; being the ends of the transepts and the choir, and the vaults over them, also that in the centre: in the vertical spaces of the transepts the artist has painted the mission of God the Son in two subjects, the commencement and the termination of the Saviour's life, represented by the Adoration of the Magi and the Crucfiixion. In that of the choir he has treated the Last Judgment; the subject on the central vault is the Empire of the Holy Spirit, while that of the choir displays the power of the Father, who, surrounded by the heavenly host, creates the world. Other sacred subjects are represented in various parts, in which are figured different holy personages.

The taste and genius of M. Cornelius being more in harmony with the severe school of Byzantine than with that of classical art, he has been more successful in his treatment of these frescoes than in those of the Glyptothek. The same reason accounts for the success of his drawings in illustration of the "Niebelungen Lied," executed at Rome. Of late years his most important labours have been his cartoons and frescoes for the Campo Santo at Berlin, and his series of designs from Dante's "Paradiso."

W.E. POZZI. DEL. M. DIGBY WYATT. DIREXT. J. A. VINTER. LITH.

A PORTION OF A SILVER SHIELD.

PRESENTED BY HIS MAJESTY THE KING OF PRUSSIA TO HIS ROYAL HIGHNESS THE PRINCE OF WALES ON THE OCCASION OF HIS BAPTISM.

LONDON. PRINTED AND PUBLISHED JULY 1ST 1852 BY DAY & SON LITHOGRAPHERS TO THE QUEEN

PLATE LXXIV.

VASE IN TERRA COTTA.

EXHIBITED BY E. L. BETTS OF LONDON.

The subject of our present Plate was contributed by Edward Ladd Betts, Esq., and was made from materials raised upon his estate in Kent, after a design by Mr. John Thomas. It is an excellent specimen of the capabilities of the material under the hands of a judicious and skilful master. The power of reproduction, which the plasticity of the substance affords, renders it particularly applicable for architectural purposes, where the same ornamental parts may be frequently repeated; and while it may be moulded into the most delicate forms, its hardness when baked is such as to resist the influence of the weather for a much longer period than most of the building-stones in use.

We have taken occasion in former articles to notice some particular branches of the use of moulded and baked clay for ornamental purposes on the Continent. We propose now to give a slight sketch of the use of the material in England. Although the manufacture of bricks appears to have been carried on in England with scarcely any interruption since the time of its introduction by the Romans, we are unable to refer to any examples of ornamental brickwork or moulded terra cotta previous to the time of the Tudors. A plastic material was well suited to produce the elaborate detail of the architecture of that period, and numerous stately halls in Norfolk, Essex, and other counties, show that our ancestors knew how to avail themselves of its capabilities. For the most part, however, the work of that period must be considered rather as moulded brickwork than ornamental terra cotta, since the masses are generally small, and are worked in with the ordinary bricks, with which they accord in colour. Most persons are familiar with the richly-moulded brick chimney-shafts, which are, perhaps, the chief feature of these mansions: as some of the most striking examples we may mention Nether Hall, in Essex, of the time of Richard III.; Oxburgh Hall, Norfolk; Brickley Hall, East Barsham; Gifford's Hall, and West Stowe Hall, all of the time of Henry VIII. At Sutton Park, Surrey, the walls are of the usual red brick; but the principal architectural features, such as the sides, heads, and mullions of the windows and doors, are formed in large pieces of burnt clay, of a strong cream-colour, made in moulds, and partly ornamented in relief. At Layer Marney House, of the same period, the decorations on the summit, as well as those of the windows and cornices, are made of a species of white brick, cast in moulds, in large and thick masses. These last examples may, perhaps, be looked upon with greater propriety as instances of ornamental terra cotta.

The gateway built by Henry VIII. at Whitehall, about 1530, may also be quoted. Pennant,* in his "History of London," says, "To Holbein was owing the most beautiful gate at Whitehall, built with bricks of two colours and disposed in a tessellated fashion. On each front were four busts in baked clay, *in proper colours*, which resisted to the last every attack of the weather." These busts were placed in circular niches, and from the style of their execution were probably of Italian origin; indeed, Pennant's remarks as to their colour would almost lead to the conclusion that they were the work of some member of the Della Robbia family.

At Hampton Court we again find some busts in terra cotta, introduced in the same manner as those at Whitehall. On the tower of the Eastern gateway of the entrance court there are two busts of the Roman emperors, Trajan and Hadrian; on the opposite gateway there are two corresponding ones of the emperors

* "Some Account of London, by Thomas Pennant, 1793."

H. SAFTER, DEL. M. DIGBY WYATT, DIREXT. F. BEDFORD LITH.

VASE IN TERRA COTTA MODELLED BY JOHN THOMAS OF LONDON.
FOR EDWARD LADD BETTS OF LONDON.

LONDON, PRINTED AND PUBLISHED JULY 1ST 1852 BY DAY & SON LITHOGRAPHERS TO THE QUEEN.

PLATE LXXV.

MARQUETRY FURNITURE,

BY MESSRS. TROLLOPE OF LONDON.

When we take into consideration the early period at which the Tuscan artists manifested their predilection for that peculiar style of mosaic known as "Florentine," which consists of a combination of precious stones and marbles cut into various forms, so as to produce a regular pattern, it is not surprising to find that marquetry, which is but a variety of the art of mosaic, should appear to have had its origin in the same district. The ecclesiastics and rich merchants of Pisa, Florence, and Sienna, vied with each other in lavish expenditure on the decorations of their churches and palaces. In their furniture especially extreme richness of ornament prevailed, and their sumptuous mode of employing various coloured woods is still attested by many an ancient chest, formed to contain the *trousseau* of a bride. In the chapel of the Palazzo della Signoria at Sienna there exist a series of pictures, illustrative of the Creed, executed in brown, black, and light-coloured wood, and said to have been designed by the great Taddeo Bartolo, with whose style they certainly display a striking coincidence.

According to Vasari,* many such works had been made by the old masters,—*da nostri vecchi*,—which, although known as *lavori di commesso* by the moderns, were, among the earlier professors of the art, described as *tarsia*. "The best works which have been made," says he, "in this manner were executed in Florence, in the time of Filippo di Ser Brunellesco, and especially by Benedetto di Maiano. This artist, like all his predecessors, had in his works employed dark and light-coloured woods only. It was reserved for Giovanni di Verona to extend the art, by giving various artificial colours to the materials used, by means of waters, coloured infusions, and penetrating oils. To obtain brilliant high lights he was accustomed to use delicate slips of willow." Vasari further remarks that it was the practice of some workers in this method to deepen their shadows by the application of a hot iron; and of others to use oil of sulphur, and compounds of corrosive sublimate and arsenic, so as to obtain any desired tint. This latter process was adopted in the celebrated works of Fra Damiano, in the church of San Domenico at Bologna.

We meet with an interesting illustration of the popularity of marquetry in Italy, in the writings of Sabba Castiglione,† who, in describing the practice of the most tasteful Italians of the middle of the sixteenth century, observes, that "some adorn their houses with inlaid work by Fra Giovanni da Monte Oliveto, or Fra Rafaello da Brescia, or the Legnaghi; most excellent masters in such works, and chiefly in architectural scenes. But above all, those who can obtain them decorate their mansions with the works, rather divine than human, of Fra Damiano da Bergamo, of the order of the Dominicans, who excelled, not only in perspectives like those other worthy masters, but in landscapes, in backgrounds, and, what is yet more, in figures; and who effected in wood as much as the great Apelles did with his pencil. I even think that the colours of these woods are more vivid, brilliant, and beautiful, than those used by painters; so that these most excellent works may be considered as a new style of painting without colours—a thing much to be wondered at. And what adds to the marvel is, that though these works are executed with inlaid pieces, the eye cannot, even by the greatest

* "Introduzione alle Vite," capitolo 21.

† "Ricordi ovvero Ammaestramenti." Venezia, 1562. For the opportunity of referring to this rare work we are indebted to the kindness of Sir Charles Lock Eastlake, who alludes to the art now under our consideration in his interesting letter to H. Bellenden Kerr, Esq., "On the Decorations of a Villa," in "The Country House," edited by Lady Mary Fox.

exertion, detect the joints. This worthy father is unapproached, up to the present time, for his skill in tinting the woods of any colour, and in imitating stone and marble; and I think he will remain without his equal in future ages. May God give him grace, as I trust he will, to conduct to a successful termination the works in S. Domenico at Bologna. I believe and feel certain that these will be considered the eighth wonder of the world; and like as the Babylonians, the Egyptians, and the Greeks, may have boasted of their temples, pyramids, colossus, and monuments, so happy Bologna may glory in and boast of the choir of San Domenico."

The perfection which was attained in Italy in this art soon spread into France, where in the reign of Louis XIV. it attained, both in its larger form of parquetry, or flooring, and in its application to domestic furniture, very great perfection. Great skill was arrived at in dyeing the woods, and burning them, to give the shadows; but in some of the earlier works it will be found that the materials employed were chiefly of their natural colours. The latter is, of course, the highest class of marquetry, and is, in reference to that composed of stained woods, what *pietre dure*, or genuine mosaic of real stones, is to that made of composition or false stones. The excellence which obtained in France under the monarchy was lost for a time during the revolutions which convulsed the commercial system and industrial energy of that country.

Although in a rude form, marquetry had long been practised in England, as may be seen in some of the fittings of Elizabethan and Jacobean houses; still there is little doubt that, in its finer and more artistic shape, considerable advantage was derived from the introduction of foreign workmen, to whom we must ascribe many of the curious commodes and standing closets occasionally seen in houses of the time of Queen Anne and the earlier Georges. In modern days the art has been reintroduced; and the late Mr. Baldock, of Hanway Street, London, who was a dealer in ancient curiosities and modern imitations of them, did much to extend a taste for marquetry, and to improve the character of works of this description. Many examples of the art were contained in the Great Exhibition, but certainly none more admirable than those by Messrs. Trollope, of which we now engrave a specimen. Both in general design as cabinet furniture, in beautiful decoration by marquetry, and in tasteful and elaborate execution, the suite of which this object formed a part reflected the highest credit on English upholstery; and we regret, therefore, our inability to furnish other illustrations of it.

Modern marquetry in general has been open to objection as to its design and execution. Both English and foreign specimens have been overcharged with colour produced by artificial means; and these colours have neither proved durable, nor have they been harmoniously applied. From an inequality in the thickness of the veneers employed,—which, instead of being properly thinned to a uniform substance, are filled up by glue or other matter,—the smoothness of surface so necessary to a good effect has been too frequently impaired. This is simply the fault of the workman; because marquetry is laid with ordinary glue, in the same way as common veneering, and if carefully executed should be as durable as the plainest article of furniture.

Impressed with these defects, and especially with the transient colour of stained or dyed woods, and the impossibility of restoring them when faded, Messrs. Trollope resolved to exert all their taste and ability in the preparation of the objects they contributed to the Great Exhibition. The designs were furnished principally by a junior member of their firm; the working drawings made by artists in the establishment; and great care was taken with the modelling and working of the carved enrichments. In designing the marquetry, strict botanical accuracy, both in form and colour, has been most successfully studied; and, as a matter of minutiæ, it may be observed that even the fibres of the leaves, which are usually indicated by the graving-tool, are of wood of the necessary colours. Repudiating all artificial colouring, Messrs. Trollope are justified in the hope which they express that these works will improve and mellow by time; and if scratched or accidentally injured, their original beauty may be restored by scraping.

In some remarks which those gentlemen have kindly furnished us with they observe, that "In the choice of woods for marquetry, the greatest judgment and experience are required to select such as shall be permanent in colour, and such parts of them as shall produce the desired effect; moreover, much depends upon the direction in which the veneers are cut. About twenty different kinds of wood, producing a great variety of effects, according to the parts selected and the mode of cutting, were employed in the articles exhibited. Among these may be named holly, cam-wood, red sandars, tulip, sandal, and purple woods; ebony, Barbary wood, Russian maple, lignum-vitæ, mulberry, kingwood, amboyna, walnut, porcupine wood," &c. Messrs. Trollope's firm was established in the year 1788, and they have been extensively employed as decorators and upholsterers under most of the eminent architects of the last fifty years. One of their principal carvers is Mr. Jefferys; and the name of their principal worker in marquetry is Vandenbrand, whose patience, perseverance, and skill, they warmly acknowledge.

F SMALLFIELD, DEL

M DIGBY WYATT, DIREXT

F BEDFORD LITH

BED ROOM FURNITURE IN MARQUETERIE BY TROLLOPE OF LONDON.

LONDON. PRINTED AND PUBLISHED JULY 1ST 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE LXXVI.

GREEK EMBROIDERY.

The object we engrave forms a portion of a rich *fermeli*, or upper jacket, which was included in a complete suit of elaborate *Palikar* costume, contributed to the Great Exhibition by one of the principal manufacturers of Greece.

We gather from the information contained in the "Official Illustrated Catalogue," that the art of embroidery, both in silk and gold, has of late been considerably improved in Greece. The silk-embroidered dresses are of an inferior description, whilst those executed in gold thread are only used by the higher classes. As respects men's apparel, gold embroidery is only in use among the irregular troops of the army, and there only by the most wealthy. The costume for ladies consists of a short mantelet, which, if embroidered in silk, costs about 60 drachmas,* and if in gold from 100 to 400 drachmas, according to circumstances. The male costumes sent for exhibition, comprising the entire dress, varied in price from 2000 to 6000 drachmas. The finest of these were executed by workmen, who, from their taste having been cultivated in the School of Design established by King Otho, have been enabled to give a more than usually artistic character to the objects they have produced.

That splendour of dress, which, in the midst of great penury, the true-born Greek clings to as the indispensable mark by which his pretensions to gentility may be recognised, is proverbial. Many of the modern Greeks may thus be said, like the gallants of the Field of the Cloth of Gold, to carry their fortunes on their backs.

Where any great complexity of design is involved, or any peculiar richness of material employed, the work is executed by individual tailors, each trading on his own account and employing a few occasional journeymen only. The system of maintaining a large establishment of workmen, or executing these labours in factories, does not yet appear to have been contemplated by the Greeks. Thus it is that every dress in which superior ornamentation is required has to be specifically ordered, and, excepting in the largest towns, it is extremely difficult to find any such garments ready made or kept in stock. It appears that the district of Janina, in Albania, is that most celebrated for the superiority of its embroidery, and the good taste of its designs; and many portions of Greece are supplied from thence. Next in celebrity to Janina, comes Athens; but between these and the smaller towns no very great difference can be said to exist: for so popular is this elaborate style of enrichment, and so universal the demand for gorgeously-decorated costume, especially on such occasions as marriages and other great festivals, that usually, even in the smallest towns, workmen may be found capable of understanding and executing a complicated and elaborate order. The character of the ornament varies but little throughout the country. It appears, however, that there are two traditional classes of design; one resembling the Turkish, and consisting generally of irregular scrolls with occasional quaint interlacings, and odd angular projections, and the other recalling that peculiar type of spiral-work which may be regarded as the Ionian characteristic of ancient Greek art. It is rare, however, to find either of these styles perfectly and consistently carried out; since while natural good taste induces an inclination for the ancient Greek style, the caprices of fashion, and the effect of the long subjection of the

* The Greek drachma is equal in value to about 8*d.* English.

country to Ottoman rule, have caused the introduction of a mixture of Constantinopolitan taste. Hence has arisen a hybrid style, in which, however, the Turkish manner strongly predominates.

It is not to be imagined that the rich jackets and other garments, such as the *doulamas*, *fustenellas*, gaiters, &c., covered over with enrichments and complicated interlacings of gold or silver thread, can be by any means universally worn: their use must obviously be confined to the aristocracy; whilst more humble individuals wear a more homely variety of costume, in which, however, though the cloth is coarser and less costly, and though wool and thread take the place of gold and silver, still the general effect aimed at is much the same throughout all classes. From some information with which we have been obligingly favoured by Mr. R. P. Pullan, we find that the cost of a rich suit complete is about 35*l.*, whilst a more common description of dress, although still very handsome, may be had for about 10*l.* 10*s.*

The style of costume of Albania, it is well known, is almost precisely similar to that of Greece. We gather from the interesting notes of Mr. Edward Lear,* that "of all the tribes of that country, that of the Ghegheria surpasses all its neighbours in gorgeousness of raiment, by adding to their other vestments a long surtout of purple, crimson, or scarlet, trimmed with fur, or bordered with gold thread or braiding. Their jackets and waistcoats are usually black. The Albanian bridal attire is most splendid. Purple silk and velvet, elaborately embroidered in gold and silver, form the outer garment; the patterns worked by hand with the greatest taste: two or three under-vests covered with embroidery; full purple trowsers; innumerable chains of gold and silver coins and medals; with a long white and several coloured silk handkerchiefs, complete a dress which is only worn on great fête days, or such great occasions as marriages and christenings."

While the most important part of the preparation of Greek costume is executed by men, much of the more laborious portion is executed by women. Certain patterns become traditional in families, but in many cases such is the skill of those employed that they will commence the execution of an elaborate piece of ornament with neither drawing nor any other sort of guide before them. Sketching in with the needle the general outline of the ornament with which they propose to fill up the space allotted for decoration, they proceed at once to apply the gold or silver thread. The principal parts of the costume on which decoration is lavished consist of the lower part of the sleeves, and the back of the upper jacket, the front of the vest which is worn beneath, and the lower part of the front of the fustenella, or garment, which in form resembles the kilt. The gaiters are always most splendidly ornamented. The cap usually worn is the fez, which is decorated only with a gold tassel; the most usual colours are scarlet and dark purple.

A considerable developement of the general manufactures of Greece has taken place of late years, and many materials essential to the making up of their ordinary costume, which were formerly obtained from Turkey, and even from Italy, are now produced in the country itself. Thus the great silk factory, which was established by Sig. Lucas Ralli on the Piræus at Athens, about six years ago, is now in full work, and produces annually a large quantity of silk; the greater portion of which is consumed in sashes and belts for the men, and rich garments for the women.

* "Journals of a Landscape Painter in Albania, &c."

J. SLIEGH, DEL. ET LITH.
M. DIGBY WYATT, DIREXI.
GREEK EMBROIDERY.
PLATE 76

PLATE LXXVII.

A YOUTH AT A STREAM.

A STATUE BY FOLEY, A.R.A., CAST IN BRONZE BY HATFIELD.

In his life of John Bacon, the distinguished sculptor, Mr. Allan Cunningham alludes to bronze-casting as one of the many branches of art to which that distinguished artist applied his talents. "Then and long afterwards," he remarks, "an air of secrecy and mystery was observed concerning the art of casting in metal; and a process at once simple and easy was taught to be regarded as something magical. Of the materials which composed the external and internal mould—the mode of rendering them safe for receiving the liquid, burning metal—the melting of the copper—the quantities of alloy, and the proper degree of heat,—the working artists spoke in a mysterious language, resembling in no small degree those conversations on alchemy so happily ridiculed by Ben Jonson. The veil has been raised a little of late from the mystery of bronze-casting. In the splendid foundries of Chantrey and Westmacott colossal statues, twelve feet high, are cast at a couple of heats; and the whole process is exhibited to any one whom curiosity or chance may happen to conduct to the artist's studio when the moulds are ready and the metal melted."

The composition of bronze for different purposes—such as medals, bell-metal, gun-metal, and works of fine art—is, indeed, now well understood by artists and manufacturers. The subject is referred to in a valuable "Manual of Metallurgy," by Mr. John Arthur Phillips; and there are some interesting notes on the subject by Mr. Robert Hunt, in the "Art-Journal" for May 1852 (p. 149). From these sources we learn that all the ancient Greek coins are bronzes, containing tin and copper only; while the earlier Roman coins consist of an alloy of copper, tin, and lead. Occasionally, zinc and silver were mixed with copper in the coins of the ancients. Mr. Phillips found that "all the bronze weapons of antiquity, whether the Roman sword or the British celt, were of similar composition, consisting of copper, 90; and of tin, 10." Mr. Hunt observes, that "in modern times the most celebrated works in bronze are those of the brothers Keller, at Versailles. These celebrated founders paid more attention to the composition of their bronze than was usual in the time of Louis XIV., or is general in the present day. The statues at Versailles are found by chemical analysis to consist of copper, 91·68; tin, 2·32; zinc, 4·93; and lead, 1·07. The zinc and the lead are added to produce greater fluidity in the melted mass, and to improve the colour of the metal. The bronze statue of Louis XV. is composed of copper, 82·45; zinc, 10·30; tin, 4·10; lead, 3·15. In melting bronze, much care is required to prevent the tin, which is a volatile metal, from being lost. An incautious founder might commence his work with a bronze of the best proportions, and conclude with nearly pure copper, the tin having passed off as oxide of tin in the furnace." Mr. Hunt cites the column of the Place Vendôme in Paris as an instance in which this has actually occurred.

Whilst, however, the purely scientific elements of bronze-casting are no longer shrouded in mystery, there are some artistic details of finishing and colouring, upon which the effect of works in this material chiefly depend. Mr. Hatfield, to whom the public are indebted for the very beautiful figure which we now engrave, may be regarded as having achieved a complete mastery over these details; and although perfectly justified in declining to communicate them to the world during his lifetime, he will not, it is to be hoped, allow them to be lost after his death.

Before, however, we advert to that gentleman and his previous productions, a few words are due to the distinguished sculptor of the graceful figure before us, and to the work itself. The "Youth at a Stream" was characterised last year (in a series of papers in the "Morning Chronicle," which we have already quoted) as "one of the most graceful and refined statues in the whole Exhibition. The elegant lines of the composition, the roundness of the limbs—never losing beauty, and yet sacrificing no anatomical proprieties—remind us forcibly of the antique; although in no portion of the figure can be detected any servile imitation of ancient precedent. The timid action of the advanced leg—the foot just touching and shrinking from the water—is beautifully expressed; and the varied composition of all the lines adapts the figure singularly well for reproduction in bronze."

Mr. Foley, A.R.A., like too many other English artists, has not had the advantage of foreign travel, nor of prosecuting his studies under any particular master. He has, however, been assiduous in his devotion to Nature, and in his study of the best models of Art which this country can afford. He was originally a student at the Royal Dublin Society, and afterwards at the Royal Academy of London. The history of his artistic progress may be briefly told; for his works, though admirable, are few in number. In the year 1838 he produced a statue of "Innocence," being his first attempt at an original work. His exquisite group of "Ino and the Infant Bacchus" was completed in 1840, and has been executed in marble for the Earl of Ellesmere. A figure of the "Wanderer" was exhibited in 1842; and in 1844 Mr. Foley exhibited the model of the present exquisite work in Westminster Hall. The grace and beauty of the figure were at once universally recognised. The model was purchased by her Grace the Duchess of Sutherland, and is now at Trentham; and Mr. Foley very soon afterwards received instructions from the Royal Commissioners to execute a statue for the Houses of Parliament. The "Youth at a Stream" was reproduced as a statuette in bronze, for the Art-Union of London. The model for the statue of "Hampden," since executed in marble, and placed in St. Stephen's Hall, Westminster, was completed in 1847; and, besides proceeding with other works for the Royal Commissioners, Mr. Foley has modelled a composition called the "Mother," which may be seen in the present exhibition of the Royal Academy (1852).

In a communication with which Mr. Foley has obligingly favoured us, he adverts to the extreme difficulty which he experienced in the execution of the subject of our engraving. The exact type of nature he required was not attainable; and it was necessary, from the peculiarity of the action, to deal with it to a great nicety, to prevent its becoming stiff and fixed. It was obviously difficult to drill the models he had to use into the spirit of the action. Mr. Foley justly observes, "The style of figure here represented is far more difficult to master, unless in a state of repose, than a more muscular form. If the anatomy be too much developed, the grace and softness peculiar to the subject are lost; whilst if it be not rendered sufficiently distinct, the work becomes tame and insipid. At one time I thought of giving it up as an insurmountable task."

Mr. John Ayres Hatfield, who has so successfully produced Mr. Foley's work in bronze, received only three years' instruction in art, and that of a very ordinary description. Having been apprenticed to a worker in metal, he entered into business for himself before he was twenty years of age, and is still a young man. His early operations were limited to works in bronze and or-molu for Messrs. Baldock, Swaby, Emanuel Brothers, and other dealers. About ten years ago, under a commission from the Art-Union of London, he successfully reproduced in bronze a small marble bust of Hebe, by Mr. A. Gatley; and he has since been employed by several distinguished connoisseurs and artists. Being introduced to the Duke of Sutherland, he restored for his grace a large bronze figure of Genius, which had been blown from the summit of the clock-tower at Trentham; and the ability he displayed in this work excited the admiration of Sir Charles Barry, and others well qualified to appreciate such works. Mr. Hatfield has since been employed by Her Majesty at Buckingham Palace and Windsor Castle. In the year 1848 he received a silver medal from the Society of Arts, for some admirable specimens of chasing; and in the following year His Royal Highness Prince Albert, as President of the same Society, presented to him the gold medal for his bronze castings. Besides the bust of "Hebe" already mentioned, Mr. Hatfield has executed for the Art-Union of London a figure of "Iris Ascending," by W. B. Kirk, and a bust of Her Majesty, reduced by Mr. Thorneycroft from the original by Chantrey. In his zeal for the attainment of perfection in his art, Mr. Hatfield has undertaken numerous experiments; and has twice endangered his life by accidents arising in the prosecution of them.

ROYAL ASIATIC

J. CLAYTON, DEL.

M. DIGBY WYATT, DIREXT

W. UNDERWOOD, LITH.

THE BOY AT THE STREAM. A STATUE BY J. H. FOLEY ESQ. OF LONDON.
CAST IN BRONZE BY HATFIELD OF LONDON.

LONDON, PRINTED AND PUBLISHED JULY 5TH 1852 BY DAY & SON LITHOGRAPHERS TO THE QUEEN

PLATE LXXVIII.

VASE IN WHITE CHINA,

BY JOUHANNEAUD AND DUBOIS OF PARIS.

In our remarks on Plates XIV. and XXXI. we have endeavoured to bring together some general information concerning the progress of the manufacture of porcelain in France, as illustrated by the history of the royal manufactory at Sèvres. In the present notice we shall follow up those remarks by tracing the coincident developement of the ceramic art in the same country, when stimulated by a spirit of commercial enterprise instead of state patronage and monopoly.

There is scarcely any of those branches of industry which may be regarded as staple in every great country, the history of which exhibits more rapid developement or more popular extension than that which involves the employment of that primitive instrument, the potter's wheel. Thus it is remarked by M. Costaz,* that there were only four manufacturers of porcelain residing at Paris in the year 1789; whereas their number had increased in the year 1806 to no fewer than thirty-three. This great increase was influenced in a considerable degree by the popularity of the hard china manufactured from the *kaolin* discovered at St. Yrier, in the department of the Haut-Vienne and Limoges. Around St. Yrier, as may readily be supposed, many small manufacturers established themselves at an early period; and among them may be noticed, as the most important, the MM. Alluand, whose successors have increased their transactions to so great an extent, that in the year 1844 they gave employment to 400 workmen.

In the Catalogue of the first Exhibition of the products of French Industry, which took place in the year VI. of the Republic (1798), we find, in addition to the objects contributed by the royal establishment at Sèvres, many works of very great beauty by Dihl and Guerhard,—who, in conjunction with the MM. Nast, may be looked upon as the earliest independent representatives of the higher departments of their art. The latter enterprising manufacturers have devoted themselves especially to the production of fine china; and, taking advantage of the scientific investigations so liberally communicated from time to time to those interested in the subject, and at length given to the public by M. Brongniart, they have contrived to keep pace with, and even to rival, the beautiful productions of Sèvres. In the first French Exhibition we certainly find the names of two manufacturers of common earthenware; but their goods would appear to have been rather of the nature of pipeclay, and common porous wares, than even what is properly understood as earthenware.

In the second Exposition—that of the year IX. of the Republic (1801)—the names of Messrs. Utzschneider and Co., of Sarreguemines, first appear,—although at that period their productions were little more than what is generally described as *faience*, or stoneware. In the following *year*, on the occasion of the tenth Exposition, a great display took place, to which the provinces largely contributed. The ordinary *faience*, which we find was then extensively manufactured in France, consisted of a common clay body with a metallic glaze, rendered opaque by tin,—the same, in fact, which was employed in England prior to the great improvements introduced by Wedgwood. It is scarcely necessary to observe, that we are indebted to that great man for the improvements which converted this clumsy and fragile material into the compact earthenware and

* "Notices sur les Objets envoyés à l'Exposition de l'Industrie Française, 1806."

ironstone so largely used in the present day; and it is gratifying to find the services which he so rendered to industry fully appreciated by the French *savans*. In the records of the Exposition of 1834 we find the following observations by M. Brongniart on the state of the manufacture in France at that period:—"In the present exhibition we meet with a kind of pottery new in this country, although it has long existed in England, where it has appeared under the name of ironstone-china. Under the somewhat ambitious designations of *porcelaine opaque* and *porcelaine dure*, our manufacturers are now commencing its introduction into France."

Although this variety of pottery is compounded of the same materials as china, but in different proportions, it differs essentially from that material in one respect; for whilst the latter is more or less transparent, this is opaque. It must be obvious that the quality of transparency implies an absolute fusion of the particles composing the material; while an opaque material, of a more or less sandy or earthy fracture, must necessarily consist of particles held together only by some cementing ingredient, instead of a perfectly homogeneous substance. The discovery of this variety of porcelain was justly regarded in France as a new starting-point; and that country is indebted to the exertions of one of its most distinguished chemists and *savans*, M. de St. Amand, for a knowledge of the processes in use in England. That gentleman visited many establishments in this country, and has recorded the results of his examinations in the Transactions of the "Société d'Encouragement" for the year 1824. On his return to Paris he proceeded to Sèvres, to put in practice, under the auspices of M. Brongniart, at that time director of the royal manufactory, the experience he had gained during his visit to England. M. de St. Amand also conducted experiments at Creil and at Montereau, and specimens of the results of his labours may still be seen in the ceramic collection of the royal establishment. Through his exertions manufactories were successfully founded at the two last-named places, as well as at Choisy de Valentine, near Toulouse.

Thus, while we may fairly give to France credit for having preceded this country in carrying to perfection, and, indeed, introducing to general use, elaborately-decorated objects in the finest china, we may justly lay claim to the merit of having elevated the more ordinary and popular processes of manufacture to such a degree of excellence as to supply to all classes of the community an approximation to the beauty and luxury of the more costly manufacture. Taking advantage of these processes, Messrs. Utzschneider and Co. have not only improved the character of production in France, but have also succeeded in reducing the price to the lowest possible amount. The same remarks will equally apply to Messrs. Le Bœuf and Milliet, of Montereau-faut-Yonne and Creil, in the department of the Oise.

As we contemplate engraving in a future number a richly-decorated example of French porcelain, we shall defer for the present any remarks on the ordinary processes of decoration; and shall content ourselves with calling the attention of the reader to the elegant form of the vase, which has been so skilfully executed by Messrs. Jouhanneaud and Dubois, of the general taste of whose productions it may be regarded as a happy specimen.

P.H. DELAMOTTE, DEL.

M. DIGBY WYATT, DIREXT.

F. BEDFORD, LITH.

VASE IN WHITE CHINA BY JOUHANNEAUD & DUBOIS OF PARIS.

LONDON, PRINTED AND PUBLISHED JULY 15TH 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE LXXIX.

GROUP OF OBJECTS EXECUTED IN ELECTROTYPE,

BY ELKINGTON AND MASON OF BIRMINGHAM.

THIS extensive establishment may be said to owe its existence to the discovery of electroplating, a process by which a large number of important works have been already produced. The objects which we have selected to form the subject of the present plate are partly of original design and partly adapted copies from the antique. The top of the table, executed for His Royal Highness the Prince Albert, is an electrotype reproduction of a salver of fine workmanship, preserved in the Museum of the Louvre: the copy was obtained for Mr. Henry Elkington, under the direction of the Chevalier de Schlick. The subjects on the plate consist of a series of allegorical representations, divided by arabesques. In another copy of this elegant work in the Museum Ferdinandeum at Innspruck, some inscriptions are added to explain the subjects of the bas-reliefs.

The centre is occupied by an embodiment of the virtue of Temperance, presiding, as it were, over all things, typified by the four elements, which are represented in the bas-reliefs of the inner ring. In the eight subjects of the outer ring the artist has introduced representations of as many branches of science and art, which are designated as Minerva, Astrologia, Geometrica, Arithmetica, Musica, Rhetorica, Dialectica, Grammatica. Each bas-relief consists of a female figure, surrounded by various emblems explanatory of the meaning of the subject,—though it must be admitted that, in some cases, the explanation is scarcely sufficient to remove all doubt as to the intention of the designer, whose name is given us by an inscription on the original plate, which runs thus,—"Seri pebat Gasper Enderlein." The stand, by which this plate has been converted into a table, was designed by Mr. George Staunton, an artist in the employ of Mr. H. Elkington: the style of the original plate is well carried out in this addition, and it certainly reflects considerable credit upon the designer, who, we understand, was educated in the Birmingham School of Design. In the composition of the elegant silver chased salt-cellar, the artist seems to have intended to remind us of the briny wave whence the contents of his vessel were to be derived. The foot is formed by sea-horses, restrained by some young Amphitritons, who also support the bowl, which is in the form of a shell: the whole is surmounted by a figure of Neptune as a boy. We are not now accustomed to see so much care bestowed upon this article of table furniture, but our readers will recollect that formerly "the salt" formed the boundary of the honourable portion of the great man's table, and the salt-cellar was an article of most costly and elaborate workmanship, far surpassing that even of the one now represented.

The history of some of the most important inventions shows that their first discovery is most commonly the result of an accidental observation, laid hold of and reasoned upon by a philosophic mind. Thus the art of electroplating, which has now risen to such great importance, originated in the observation that a deposit precipitated by the action of the galvanic battery in a cell containing sulphate of copper was the exact copy of the interior of that cell. The original invention of the electrotyping process has been claimed by two persons,—by Mr. Thomas Spencer of Liverpool, and by Professor Jacobi of St. Petersburg; and their rival claims were laid before the Chemical Section of the British Association for the Promotion of Science, at a meeting of that body in Glasgow. It appears that, in the year 1838, Mr. Spencer, who was a man of science as well as a picture-frame maker, was led to observe many points of similarity between chemical and

electrical forces. He prosecuted the interesting inquiry in a series of ingenious experiments, in the course of which he discovered that, under certain circumstances of galvanic action, the metallic portion of a solution of sulphate of copper was separated from the acid, and could be deposited atom by atom upon the surface of a copper plate, on which it at first formed a film, and ultimately a layer. The surface of this layer, when removed, was found to be a perfect reverse of the original plate. As soon as the discovery was made known, under the name of the *electrotype*, its obvious utility for multiplying impressions of medals and similar objects rendered it extremely popular, and the public were seized with a perfect mania for taking electrotype impressions of every possible object. It was not until some months after the publication of this discovery by Mr. Spencer that Professor Jacobi, having obtained the same results at which the English inventor had previously arrived, claimed for himself the exclusive merit of the invention. It was natural that the prejudices of the technical body before whom, as we have stated, their rival claims were preferred, should be on the side of the learned Professor, having known rank and position in the scientific world, rather than on that of a simple tradesman of Liverpool, whose name was then heard of for the first time beyond the limits of his own immediate sphere of action. The men of science composing the jury might also consider it derogatory to their order that so important a discovery should have escaped even the suspicions of professional chemists, and originated with a humble amateur. The evidence, however, which Mr. Spencer was able to produce was so conclusive, that the learned Professor was obliged to cede the honour of priority to his rival; and the decision of the Chemical Section was, that both gentlemen had independently arrived at the same result, but that, in point of time, the invention of Mr. Spencer was unquestionably antecedent to that of Professor Jacobi.

Messrs. Elkington appear to have taken up the invention very soon after this adjustment of conflicting interests, as we find that, in the year 1840, they took out a patent for electroplating, both in England and France; and though it was most severely contested in the latter country, and was tried in a variety of forms before all the courts of law in succession, the right of the patentees was finally secured. Since that time the importance of the electroplating process as a branch of industry has increased so rapidly, that the patentees alone employ upwards of five hundred workpeople, and, necessarily, some of the first designers of the day; besides which, there are about thirty other manufacturers licensed to use the process in England, and it is also extensively employed in France.

The capabilities of the electro-deposit processes, for the reproduction of the most elaborate works of sculpture, have been greatly extended and increased in value and precision by the improvements which have from time to time been made in the methods employed in obtaining perfect casts, with a considerable amount of undercutting, by means of gelatine moulds. While, however, this facility offers great advantages, it, on the other hand, presents a means liable to serious abuse. So great is the temptation to copy, that it may appear at first sight scarcely necessary any longer to invent. This view is, however, exceedingly short-sighted; since, unless an independence of national design is preserved, that which judiciously employed might tend materially to the advancement of Industrial Art in this country, will be made a means only of enfeebling those very powers it is most essential for the progress of the nation in manufacture firmly and adequately to sustain. It is ever to be remembered that Thought stands to Art in the relation of soul to body; that the country whose productions, however lively they may be, are dependent on other than original and native conception, can lay claim only to a dead, material existence; and that the *vitality* of Art is its loftiest quality. Exquisitely beautiful as many of our reproductions of the choicest gems of Greece may be in these days, they can be only "Greece, but *living* Greece no more."

In tracing, therefore, the progress of Messrs. Elkington, it is satisfactory to find that from year to year they have been endeavouring to emancipate themselves from the thraldom of copying only, and adding fresh graces and new and native beauties to the objects upon which their producing energy is concentrated. At the Industrial Exhibition at Birmingham in 1849, their large display of articles served to show how earnestly they were working out their patent; and the same result was still more apparent in their contributions to the Great Exhibition of all Nations.

In a further notice of the productions of this firm, we shall take occasion to describe the processes by which magnificent works, formerly obtainable only by the most wealthy, are now being brought within the reach of those whose means would not otherwise allow them to gratify their taste for such objects.

H L MICHAEL DEL.

M. DIGBY WYATT, DIREXT.

F. BEDFORD, LITH.

A TABLE AND OTHER OBJECTS, BY ELKINGTON & MASON OF BIRMINGHAM.

LONDON, PRINTED AND PUBLISHED JULY 15TH 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE LXXX.

ALBANIAN EMBROIDERY.

Having, in our notice of Plate LXXVI., examined the character of the modern costume of Greece and Albania, we shall, on the present occasion, advert to the history of costume-embroidery from the earliest foundation of the Greek Empire.

The love of magnificence and of elaborate, though semi-barbaric art, for which Constantine the Great was so remarkable, unquestionably afforded a powerful stimulus to the labours of those Roman artists whom he carried with him to his new capital, to supply his personal wants, as well as those of his newly-founded Church. In the earliest diptychs we find* indications of embroidery on portions of the garments represented in the consular portraits. The most ancient manuscripts and mosaics afford still clearer evidence as to the early-developed partiality of the Greeks for similar rich decorations. Their intercourse with Persia and the East no doubt fostered this taste, since the inhabitants of those regions had long been famed for the magnificence of their costume, and the skill with which their precious cloths and hangings were executed in the loom and adorned by the needle. It is reasonable, therefore, to find in the earliest representations of Greek embroidery a decidedly Oriental character; and in proportion as the power of the Saracenic races increased, so do we more and more clearly recognise the influence of the arts of design which they practised reacting upon the Byzantines, from whom the first and leading elements of those arts had been derived.

Ciampini† displays great learning in tracing the retention, by the Greeks of the Lower Empire, of the practice of their classic ancestors of embroidering inscriptions on the hems of their garments. He cites especially a homily on the subject of the Rich Man and Lazarus, by St. Asterius, who exclaims against the custom of embroidering sacred and profane histories on vestments. Anastasius, in his life of Leo IV. (who became Pope A.D. 847), describes a veil which hung about his altar as woven with gold, and glittering all over with pearls; having, on the right and left hand, subjects enriched with gems, with little gold circlets round the whole, on which was inscribed the name of the donor. A careful examination of several of the earliest Greek mosaics enabled Ciampini to collect, from the representations of similar embroideries which they furnish to the antiquary, a series of interesting monograms and inscriptions, which he has given in his work. There can be no doubt that the Greeks long continued to execute such embroideries, which were generally adopted in Italy as orphreys and edgings for robes and vestments; for we find in the pictures of the later Greek masters, and of the early Siennese, Neapolitan, and Venetian schools, frequent representations of figures clad in plain and enriched stuffs, having almost invariably edgings worked in gold, and exhibiting sometimes Greek, sometimes Latin, and sometimes Cufic inscriptions, together with ornaments displaying a decided analogy with those forms which are of most frequent occurrence in Byzantine mosaics, enamels, and manuscripts.

In a previous article (Plate XX.) we quoted the observation of St. John Chrysostom, that in his time all admiration was reserved for the works of the goldsmith and the weaver. Of sumptuous robes of Greek workmanship the most precious, and indeed the only perfect, specimen known to be in existence, is the celebrated Cappa di San Leone. The Dalmatica, as it is otherwise called, is preserved in the sacristy of St. Peter's at Rome, and is covered with sacred subjects, embroidered in gold and silver: and although the style of the representations is dry and lifeless, it must be considered as a fair specimen of the technical execution

* Vide Gorius, passim.

† "Vetera Monimenta, musiva opera illustrantur. Pars prima." Folio. Rome, 1690, p. 92.

of such work at the period of its fabrication, about the twelfth century. Dr. Kugler* considers it to be of undoubted Greek workmanship from Constantinople. It is very interesting, as showing the extreme richness of composition employed in such embroideries. We are informed by the Rev. Mr. Hartshorne† that "the work is laid upon a foundation of deep blue silk, having four different subjects on the shoulders, behind and in front, exhibiting, although taken from different actions, the glorification of the body of our Lord. The whole has been carefully wrought with gold tambour and silk; and the numerous figures—as many as fifty-four—surrounding the Redeemer, who sits enthroned on a rainbow in the centre, display simplicity and gracefulness of design. The field of the vestment is powdered with flowers and crosses of gold and silver, having the bottom enriched with a running floriated pattern. It has also a representation of Paradise, wherein the flowers, carried by tigers of gold, are of emerald green, turquoise blue, and flame colour. Crosses of silver cantoned with tears of gold, and of gold cantoned with tears of silver alternately, are inserted in the flowing foliage at the edge. Other crosses within circles are also placed after the same rule; when of gold, in medallions of silver; and when of silver, in the reverse order."

"I do not apprehend," says Lord Lindsay, in his "History of Christian Art," "your being disappointed with the Dalmatica di San Leone, or your dissenting from my conclusion, that a master—a Michael Angelo, I would almost say—then flourished at Byzantium. It was in this Dalmatica—then *semée* all over with pearls, and glittering in freshness—that Cola di Rienzi robed himself over his armour in the sacristy of St. Peter's, and thence ascended to the palace of the Popes, after the manner of the Cæsars, with sounding trumpets and his horsemen following him,—his truncheon in his hand, and his crown on his head,—'terribile e fantastice,' as his biographer describes him,—to wait upon the legate."

The sacristy of the church of St. Apollinaris in Classe, in the exarchate of Ravenna, possesses some fragments of a very ancient embroidered chasuble, on the orphrey or border of which were figures of saints and bishops, with the names of each in small shields. The fabric of these interesting relics is of silver and silk,—a manufacture which is of later introduction for the material of church vestments than gold. According to Salmasius, silver tissue was not made or used in churches till the times of the last Byzantine emperors. From this circumstance we may form some conclusion as to the date of this chasuble, which may be assumed as representing the last stage of Greek embroidery.

We shall hereafter take an opportunity of tracing the very important influence which, as we conceive, the great popularity of the style of workmanship, adopted in the costume of the Byzantine court, effected throughout nearly the whole extent of the habitable globe.

* "Handbuch der Kunst-Geshichte."

† "English Mediæval Embroidery," p. 62. Parker, London and Oxford.

H.N.HUMPHREYS, DEL.

M.DIGBY WYATT, DIREXT

A. WARREN, LITH.

ALBANIAN COSTUME EMBROIDERY.

LONDON, PRINTED AND PUBLISHED JULY 15TH 1852 BY DAY & SON LITHOGRAPHERS TO THE QUEEN.

PLATE LXXXI.

FLOWER-STAND,

MODELLED BY THE BARON MAROCHETTI, AND EXECUTED BY MINTON OF STOKE-UPON-TRENT.

THE ceramic art ranks among the most ancient and interesting of any, and presents an endless variety of products. The potter's wheel may, in fact, be regarded as one of the very earliest machines on record; and whilst the oldest nations of the classic world—Egypt, Greece, and Etruria—excelled in its application to purposes of use and ornament, so our increasing knowledge of Oriental, and even barbarous regions, proves its early and universal popularity.

We have already adverted to the productions of mediæval Italy, as exemplified in the exquisite Majolica and Luca della Robbia wares; and to the successful imitations of those works by Messrs. Minton and Co. We have also illustrated the magnificent porcelain of Sèvres; and we now propose to lay before our readers some remarks on the history of ceramic art in England, in connexion with the accompanying and subsequent engravings.

As we find that even the aboriginal inhabitants of America possess a rude imitation of the potter's wheel, so it appears that the first colonists of Britain applied the plastic clay which they met with in this island to the manufacture of domestic and other vessels. Strabo asserts that the Britons of the Scilly Isles obtained their pottery in barter; but from the numerous fragments of earthenware discovered in barrows of an age anterior to the Roman dominion, it is evident that the art was then extensively practised in Britain. Sir Richard Colt Hoare* engraves many fine specimens of these productions, which he classes under three heads,—the large sepulchral or funeral urn; the drinking-cup, usually found with skeletons, and holding about a quart; and the smaller incense-cup, or *thuribulum*. Some of these are richly, though rudely, ornamented; but there is little variety in their forms or patterns. Their materials are coarse, and they are so imperfectly baked, either in the sun or the fire of the funeral pile, as often to shiver to pieces on exposure to the atmosphere. The patterns appear to have been worked by hand with a pointed instrument.

From the infinite number of fragments and perfect vessels discovered in all parts of the kingdom, it is obvious that fictile wares must have been in universal demand during the five centuries of Roman rule in Britain. In London, York, Exeter, Colchester, and all the great Roman stations, pottery has been and is almost daily found, in the greatest variety and abundance; and there is not a county in England which has not furnished proofs of its popularity. Kent, especially, is rich in these interesting remains; and the discoveries at Richborough alone (which have been so ably illustrated by Mr. C. Roach Smith) brought to light hundreds of varieties of the plainer sorts of pottery.

Unlike the British specimens, those of the Roman era are remarkable for their beautifully-moulded forms, and for the taste and elegance of the patterns and figures with which they are decorated. They may be generally classed as glazed and unglazed, and are found to have been made of differently-coloured earths,—red, brown, light yellow or straw-coloured, drab, fawn-coloured, and white. The earthen vessels made in the Roman era

* "Ancient Wilts," Introduction, p. 10, 26, 66, 85.

comprised urns, vases, pateræ, lamps, mortaria, amphoræ or wine-jars, and a great variety of similar articles. The most ordinary kind are of a red colour, as also is the thin transparent glaze which covers some of them.

The most remarkable and beautiful variety of Roman earthenware found in Britain is that commonly termed Samian ware, from its resemblance to that for which the isle of Samos acquired a great celebrity almost a century before the Christian era. This so-called "Samian ware" is also extensively met with in France, in Germany, and in Spain, and was evidently held in high esteem by the Roman colonists of northern Europe. Mr. C. R. Smith dwells especially upon the relics of this description found at Richborough and in the neighbourhood. "This," he says, "is distinguished from all other kinds of ancient pottery discovered in England and on the Continent, by a red or coral-coloured glaze, covering uniformly the internal and external surfaces; the body of the material being of a paler red, of compact texture, slightly porous, and sonorous when struck. The colouring matter was imparted to these vessels by oxides of lead and iron." Immense quantities of this species of earthenware have been discovered on the site of Roman London; and for nearly a century past so many fragments of it have been dredged up by fishermen, on the coast between Whitstable and Margate, that it has been suggested, either that a ship importing such vessels must have been wrecked there, or that an ancient pottery on that site has been submerged by the sea: the latter opinion being equally probable with the former. Many traces of extensive Roman potteries and kilns, or furnaces, are found in different parts of England; as at Binchester; at Caistor; at Middlethorpe, in Yorkshire; at Potter-Heigham, Norfolk; in Holt Forest; and, as it is said, in Staffordshire, in the locality now so familiarly known as "the Potteries."

One interesting feature in Roman pottery is the fact that many vessels, both of the Samian and other kinds, have impressed upon them the names of their makers.* Upwards of three hundred potters of the Roman era are thus known to us, many of them being evidently Gauls and Germans. The names of the same workmen have been, in several instances, found on fragments discovered both in France and in London; thirty-nine different names appear on the Richborough remains alone; and, partly from the evidence furnished by these "potters' marks," Mr. C. R. Smith arrives at the conclusion that the Samian ware was manufactured in the South of France and on the Rhine. The excellence of Roman bricks, tiles, and tesseræ, and their application to pavements and constructive purposes, is proverbial.

During the middle ages, the old English notoriety for deep potations caused a general demand for drinking-vessels of the greatest variety. Potters, among other craftsmen, are mentioned in the "Doomsday Survey." A common porous earthenware, and an inferior kind of glazed ware, were made throughout this period: the use of encaustic tiles of great beauty and admirable workmanship shows that the artistic capability was not extinct, and interesting relics of the pottery of our early ancestors have been found at York, Lincoln, and elsewhere.† In Mr. Hudson Turner's volume on Ancient Domestic Architecture, engravings are given of the earthen water-vessels, oil-jars, pottage-pots, &c., of the thirteenth century, from manuscripts of that period; but, as the author observes, plates and dishes were then made of other materials; and, in fact, until the sixteenth century, the ceramic art was not at all commonly practised in England.

An almost infinite variety of other materials were used as substitutes for earthenware; and with a brief reference to some of these we must close the present notice. Wooden trenchers date from the Anglo-Saxon era, and the elaborately-carved peg-tankard, belonging now to Lord Arundel of Wardour, and formerly to the Abbey of Glastonbury, is ascribed to a period anterior to the Norman Conquest.‡ The horns of the ox and other animals were formed into rude drinking-vessels from the earliest ages; and whilst gourds, cocoa-nuts, leather, glass, crystal, alabaster, and even marble ("marmoreus," probably agate), were occasionally employed for a like purpose; it is evident that the greater majority of such vessels were of metal. Without citing the innumerable examples of old English plate which still abound, we may allude to the inventory of the wardrobe of Henry V., which included "*pottes jaloners* (or gallon-pots), *d'argentz*, covertz, signez ovec libard en les handelles." In the year 1428, "two hundred plattes, dishes, saucers, and other vessels of *electrum*," were exported from England, free of duty, for the use of the King of Portugal; and to a very recent period pewter was extensively used for platters and other articles.

* M. Brongniart gives an engraving of one of the stamps used to produce these impressions.

† At the meeting of the Archæological Institute at Lincoln, in 1848, Mr. Arthur Trollope exhibited a large and curious collection of mediæval fictile manufactures, discovered in and near that city. This series comprised many specimens covered with a peculiar green glaze, which was extensively used; and also some rude stamps, used by the Lincoln potters of the fourteenth century, for impressing figures and devices on their productions. The age of these implements was clearly proved by the square head-dress of the reign of Edward III. on the figures.

‡ Pepys, in 1667, indulged in "a flaggon of ale and apples, drunk out of a wood cup, as a Christmas draught."

H MAYE, DEL. M. DIGBY WYATT, DIREXT. F MORAS, LITH.

FLOWER STAND MODELLED BY MAROCHETTI FOR MINTON OF STOKE-UPON-TRENT.

LONDON, PRINTED AND PUBLISHED AUGUST 1ST 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE LXXXII.

JEWELLERY IN THE MEDIÆVAL STYLE.

MANUFACTURED BY HARDMAN OF BIRMINGHAM, FROM DESIGNS BY PUGIN.

It is a singular fact that the jewellery of the primæval inhabitants of our island is far more common than that of the Middle Ages. This is, however, accounted for by the custom which obtains among nearly all semi-civilised nations of burying the most valued ornaments with their defunct possessor; while, on the other hand, a piece of jewellery of the twelfth or thirteenth century would often be transmitted through so many successive generations that at last it would get broken by constant use, or so thoroughly worn out that the melting-pot could be its only possible destination.

Nearly the whole surface of Great Britain is more or less covered with conical heaps of earth, the successive burying-places of the Britons, Danes, and Saxons. During the present century many of these have been carefully examined, and a great quantity of the ornaments of the various nations brought to light. Thus, in the British barrows have been found torques, armillæ, and fibulæ, besides sundry necklaces composed of rudely-cut amber, or an inferior description of glass. The most important of such objects is the "dorch," or torque, consisting of several thick wires of gold twisted into a circle, generally about six or eight inches in diameter, with both ends terminating in hooks, by means of which they were fastened together. The torque was worn round the neck, and although we are sometimes told that its use was restricted to the chiefs, yet it is found in so many different metals that it is probable it was more common, and the material affords us an index of the wealth, instead of the rank, of the owner. As to the British fibulæ and armillæ, they are for the most part very rude; the latter are penannular, and end in two flat discs.

The Romano-British barrows present us with far more valuable contents. Although the description of ornaments are for the most part the same as those of the earlier period, we find many decided improvements. The rude series of raised lines with dots between them give place to imitations of classic foliage, and a great quantity of the articles are decorated with enamel. Whether the processes by which this was effected were known to the ancient Britons is still an open question, but it appears to have been the common property of the northern nations from a very early period. Most probably it was in the first instance but a rude attempt to copy the delicate cloisonné enamels of the East, of which these northern tribes had perhaps preserved some traditions during their long migrations from the shores of the Black Sea.

An almost endless variety of jewellery is found in the Saxon barrows, and some of the types of the fibulæ are, to say the least, exceedingly curious. Enamel is employed to a much greater extent than it was in the former period, and many ornaments are found decorated with what can only be considered as a substitute for the cloisonné work. It consists of a pattern worked into cells by strips of gold, into the interstices formed by the convolutions of which are forced thin pieces of ruby-coloured glass, often placed upon an engraved plate of gold or silver to throw up the colour.

The contemporary Irish and Scotch works (especially the former) exhibit much delicacy of manipulation in both damascening and enamelling. They are likewise curious, as presenting us with two or more colours in juxtaposition without any intermediate strip of metal, and the damascening will bear comparison with the later and more famed manufactures of Mossul.

The Irish fibula was generally penannular, with the ends merely enlarged.* The Anglo-Saxon, on the contrary, was usually of the disc shape, a type which continued in use for many years subsequent to the Conquest. Probably the most splendid example extant is that in the collection of the late Sir W. Hamilton, and now in the British Museum: it consists of one mass of filagree and cloisonné enamel. Both of these latter arts must have been known to the Anglo-Saxons before the ninth century, as they are employed with very considerable skill in Alfred's jewel, now in the Ashmolean Museum at Oxford. The almost unceasing communication with Rome which took place about that time furnishes us with a very satisfactory solution of the question of their origin.

Chefs-d'œuvre of this epoch are sufficiently numerous, but we can only find space to indicate Bishop Ahlstan's ring, with champlevé enamel; that of Ethelbert, with damascene work; the Hexham drinking-cup,† rich with stones and filagree; and the beautiful fibula‡ found in London in 1839.

We obtain but little information respecting the art during the reigns of the kings immediately after the Conquest, beyond the vague expressions of "lapides pretiosæ," set "opere subtilissimo," of the historians. There were no monumental effigies, and the earliest of any importance (those of Fontevraud) simply exhibit the general form of the regalia. Perhaps the best and almost unique specimen of English jewellery of this period (eleventh century) is the spoon§ used at the coronation of our kings, and now kept with articles of more equivocal reputation in the Tower of London.

During the Middle Ages, properly so called, the jewellery of both sexes underwent but little alteration, and an inspection of the prints in Stothard's and Hollis's Monumental Effigies, will give the reader a better idea of the ornaments of the various classes of society, from the eleventh to the sixteenth centuries, than pages of description.

From these and other sources we find that the bishop required a "mitra preciosa," a ring, a crozier, and an "ouch" or "morse," for the cope,—the latter a descendant of the old fibula. The episcopal rings are generally quite plain and set with stones, often of considerable value. The croziers of William of Wykeham and Bishop Fox are evidences of the care bestowed on this instrument; and fragments of the mitre of the former bishop, preserved at New College, Oxford, and the Limerick mitre, published in Shaw's "Dresses and Decorations," testify that the cost of the "mitra preciosa" must have been no small sum.

The knight possessed his cingulum, or military belt, consisting of square or circular pieces of jewellery affixed to a band of leather or velvet; these, and the mounting of the swords, must often have been of great value; for we read of the Black Prince pawning one of his swords, which was not redeemed at the time of his death; and another belonging to Henry V. was of sufficient value to procure the pardon of Sir Isambart d'Agincourt, who obtained it when he made that attack on the English baggage which cost the lives of several thousands of the bravest of his countrymen.

The girdle, or "ceinture," was worn by both sexes, and frequently dwindled down to a few brass knobs sewed upon coarse cloths; on the other hand, we find descriptions of girdles, the richness of which would be almost marvellous to modern ideas.

Another article, common to both sexes, was the "coronal," originally a thin band of gems and filagree to keep the long hair in its place; this was often worn over the helmet, as we see in the effigy of William de Valence, in Westminster Abbey. Afterwards, various leaves were added to it, when it became the coronet of the nobility, while the ladies gradually bent it downwards and formed it into a species of guard or border for the "dorelet," or "trésor d'or," a net-work of gold-wire with jewels (often pendent) at the intersections. This latter object was, perhaps, the most important of all the ladies' bijouterie, and many a "caul of pipes," as it was latterly described, had no doubt done duty for more than two centuries.

A great number of the rings of the Middle Ages have lately been published by the Archæological Societies; they appear to have been made in every conceivable shape, and are often engraved with short mottoes, in which case they were called posy-rings. Some are massive, like those of the classic ages, while others are enamelled or simply twisted; in fact, it would be an endless task to enumerate the varieties.‖

* The Tara brooch is a specimen of the usual type.

† Generally called a "bucket."

‡ See "Archæologia," vol. xxix.

§ See Shaw's "Dresses and Decorations" for a beautiful print of this spoon.

‖ The collections of Mr. Fitch of Norwich, and of Mr. Whincopp of Ipswich, are most interesting.

R.H. DELAMOTTE, DEL. M. DIGBY WYATT, DIREXT. F. BEDFORD, LITH.

JEWELLERY DESIGNED BY PUGIN, AND EXECUTED BY HARDMAN OF BIRMINGHAM

LONDON: PRINTED AND PUBLISHED AUGT 1ST 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE LXXXIII.

ORNAMENTS FROM A GRAND PIANOFORTE,

BY MESSRS. BROADWOOD OF LONDON.

In our notice of Plate LIX. we traced the history of the pianoforte manufacture, from its first appearance in England to the period when the talents of Clementi as a musician, and the ability of manufacturers such as Tschudi, Stodart, Kirkman, Zumpe, and Broadwood, procured for that instrument the popularity which it has since constantly maintained. In the present article we shall pursue the subject by tracing those developements many of which have been introduced by the skill and energy of the Messrs. Broadwood.

The first notice of a "pianoforte," which occurs in the books of that firm, dates from the year 1771; and of a "grand pianoforte" from 1781. It is unfortunate, however, that the earliest ledgers of the Messrs. Broadwood have been lost, as they would, no doubt, have thrown considerable light on the history of the instrument. In order to afford some idea of the rapid progress which the pianoforte made in popularity, and of the extraordinary demand to which the Messrs. Broadwood have ministered, we may observe, that, between the years 1771 and 1851, no fewer than 103,750 pianos have been made by that firm alone; of which number 60,382 were made from 1824 to 1850, giving, during those years, an average of no less than $2236\frac{10}{27}$ per annum. The number of persons working at Messrs. Broadwood's factory at the taking of the census in 1851 was 573,—in addition to which many individuals were employed at their own homes. The total salaries and wages of the persons employed by the firm amounted, in the year 1850–51, to upwards of 48,000*l.*

Without the aid of numerous diagrams it would be impossible, in the limits of the present notice, to trace the details of the successive varieties of mechanism by which the grand pianoforte movement attained its present perfection. Simultaneously with improvements in the action of the instrument, numerous changes in its structure were introduced. In the old construction of the harpsichord, the wires were of such exceeding tenuity that the mere wooden framing of the case was sufficient to support the tension exerted by the tightening of the strings. In proportion as the wires of the pianoforte were increased in thickness, so as to ensure greater sonorosity, it became necessary to strengthen the framework to which they were attached; and for that purpose steel arches were introduced between the strings, to fasten them in their proper position. When we reflect that in the grand pianoforte of the present day the 225 strings or wires employed exert a strain of more than 20,000 lbs., drawing together the two ends of the framework, some idea may be formed of the precautions which must be taken to retain the several parts in their proper places, so that the necessary degree of tension may be uniformly given to the various strings.

So early as the year 1808 Messrs. Broadwood applied horizontal steel bars over the strings, the number varying from two to seven. In 1820 Messrs. Stodart patented a system of bracing, by means of hollow metal tension-bars applied over the strings, combined with a suspension-bar over the wrest plank. M. Erard, in the year 1824, patented a somewhat different system of horizontal metal bracing; and Messrs. Broadwood, in 1827, a third system, for the grand pianoforte, being a combination of the metal bars which they had already adopted, and which they had first applied to the square pianoforte in 1822.

Experience, however, shows, that all tension-bars are at best but make-shifts; and it is probable that the best mode of constructing a grand pianoforte would be so to strengthen the case as to supersede the bars altogether. Of late years the object of the Messrs. Broadwood has been to reduce their metal tension-bars to the lowest possible number; and to effect this they have given to several of them a cross section, so as to obtain greatly increased lateral stiffness.

As our readers may not all clearly appreciate the differences between the several varieties of pianofortes, it may be desirable to quote the following clear definitions of them, which are given by Mr. Dodd.* "1st. The *square* pianoforte has the strings horizontal, in a rectangular case, with two strings to each note, and a compass varying from five and a half to six and a half octaves. 2d. The *cottage* pianoforte has its strings arranged vertically, reaching nearly from the ground to a short distance above the level of the keys: the case is much shorter than in the square; there are two strings to each note; and the compass is generally six octaves. 3d. The *cabinet* pianoforte is much higher than any other, except the *upright grand*, a form not now manufactured; the strings, two to each note, are arranged vertically, but, unlike those in the cottage form, are elevated wholly above the level of the keys: in general the compass is six octaves, but the most finished instruments have a compass of six and a half. 4th. The *grand* pianoforte is longer than any other; it is wider at one end than the other, and, unlike those hitherto mentioned, has the keys at one end: the strings are horizontal, and the chief feature whereby the instrument is distinguished is that there are three strings to each note: the compass is always six octaves and a half, and there are thus upwards of two hundred and twenty strings. 5th. The *semi-grand* pianoforte is, as its name imports, a modification of the *grand;* it has the strings horizontal; its case somewhat resembles that of the grand, but it is shorter; has a compass of only six octaves; and has but two strings to a note. These are the five forms of pianofortes now made. They are not all of equal importance in a commercial point of view, for the *squares* generally made are twice as many in number as all the rest put together."

Many important changes have been made, not only in the substance and quality of the wires of the pianoforte, but in apportioning their lengths to the correct intervals of the scale. In the early pianos the wires for the lower notes were of brass, and those for the treble, of steel; a few of the bass notes being covered with plated copper-wire to increase their tone. In modern instruments steel-wire is generally used throughout; about an octave in the bass being closely lapped with unwashed copper-wire. We are told by a writer in the "Penny Cyclopædia," that the steel-wire now used is the manufacture of Mr. Webster, of Penns, near Birmingham, and is greatly superior to the once-famed German wire.

That peculiar property which distinguishes the tone of the pianoforte from that of the harpsichord (in which a regular jerk was given to the string by means of a jack) is much heightened by the introduction of pedals, which enable the player to increase or lower the intensity of the tone. The *forte-pedal* relieves the strings from the action of the damper, which would otherwise check their vibration; whilst the *piano-pedal*, in the grand pianoforte, acts by removing one of every three strings from the action of the hammer. This is effected by shifting the entire key-board to a small distance from its usual position.

Various actions have been introduced to lighten the touch of the instrument, or, in other words, to enable the player to produce a great amount of tone with a comparatively small muscular exertion. The "repetition action," patented by Messrs. Erard, is the most important of these; and the instruments contributed to the Great Exhibition by that distinguished firm were of the highest class of excellence, both as regards their musical properties and the beauty of their cases.

We cannot conclude the present notice without referring to the admirable design and careful execution of the pianofortes of Messrs. Broadwood. The instrument from which the patterns we have engraved have been selected was designed by Mr. Edward Barry, and reflects high credit upon his ability and taste. Its material was ebony, richly carved and gilt; the top being inlaid with satin-wood. Above each of the three legs, carved medallions of Handel, Mozart, and Beethoven, were introduced. The whole of the carving was executed by that distinguished artist, Mr. John Thomas, to whose labours in connexion with the Palace of Westminster we have already alluded.

* "British Manufactures." Series IV.

F. SMALLFIELD DEL. M. DIGBY WYATT DIREXT F. BEDFORD LITH.

MARQUETERIE ENRICHMENTS OF A PIANO FORTE BY BROADWOOD OF LONDON.

LONDON, PRINTED AND PUBLISHED AUG.ST 1ST 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE LXXXIV.

INDIAN EMBROIDERY ON BLACK CLOTH.

On the threshold of an analysis of the art displayed in the specimens contributed to the Great Exhibition from the continent of India, the student is met by two obvious and distinct varieties; one of which he will find to emanate from the ancient Hindoo traditions, and the other, through the Mahommedan conquerors of the soil, from the far-off glories of ancient Persia and the imperial court of Byzantium. In the present article we shall attempt to note a few peculiarities concerning the former of these styles, reserving for a subsequent paper a similar brief investigation of the latter.

It is impossible to read the accounts of Arrian, Herodotus, and other ancient historians, without perceiving that, even in the days of Darius Hystaspes and Alexander the Great, the population of Hindostan had made considerable advances in the cultivation, if not of the arts of civilisation, at least of those of barbaric magnificence. The Greeks of the Bactrian kingdom, on their assumption of independence from the dominion of the Seleucidæ, opened intimate commercial relations with India, and continued to maintain them from the year 254 to the year 126 B.C. A mutual influence was thus exercised over the arts of the two countries, and many peculiarities of mythic tradition became common to each. To attempt to follow Sir William Jones in his chronological researches into the history of the Hindoo races, would, in our present inquiry, be as superfluous as it would be difficult; for, even if we were enabled to trace distinctly the succession of those races, the materials for discriminating the arts peculiar to each are utterly wanting. Numerous traditions, however, justify us in believing that the early conquerors of Malwah, of Berar, of Ghuzerat, and of Delhi, were chiefs extraordinarily addicted to the pleasures of the senses; for we find that the city of Canouj, which was even more extensive than that of Delhi, contained at one time no fewer than 30,000 betel-shops, and 60,000 bands of musicians and singers, paying tax to Government.

The ancient possessions of the Greeks in Bactriana, as well as in the provinces of Cabul, Candahar, and Cashmere, were at this period (which shortly preceded the incursions of the Mahommedans,) under the dominion of the Tâtars; and Lahore, and the other countries on the left bank of the Indus, were tributary to the Kings of Persia. The Rajahs of Canouj, Delhi, and Ajmeer, were the earliest to bow to the conquerors; while the Rahjpoots, strong in their natural fortifications, continued for very many centuries successfully to repel their advances. Although it has been asserted that Mahommedan warriors had penetrated into India as early as the eighth century, the fact appears exceedingly questionable. There can be no doubt, however, that, at that period, commercial relations of considerable importance existed between the inhabitants of India and the Arabs. It appears pretty certain, nevertheless, that the arts of the Hindoos were preserved integrally free from any admixture of the Mahommedan element until about the year 1000 of the Christian era, when the fierce assaults of Mahmoud subdued the native independence of the people, and laid a foundation for the domination of those races whose arts differed from those of the Hindoos no less than did their faith.

It has been well and frequently observed, that a remarkable coincidence may be universally traced between the religion and the arts of every people; and that, as the former changes from time to time, so do the modes in which art manifests itself. In examining the ancient Hindoo monuments we find this to be peculiarly the case, since all those which date from the middle of the sixth century B.C. (the epoch in

which the celebrated ascetic, Buddha, introduced his severer rule), display a considerable variation from those executed under the influence of the faith of Brahma.

It is observed by the learned Kugler, that, in Hindoo architecture, imagination is the predominant feature. "A world it is," he says, "of tales and legends. The whole existence of the Hindoo may be described as bordering on the region of phantasy; the most obvious and ordinary objects appear to him revealed as wonders; history becomes obscure before his eyes, and melts into tradition." Hence, in every Indian representation there is a wild uncertainty, far removed from the rigid vigour and precision of form peculiar to Egyptian art. Every ornament is incessantly varied, in obedience to the fancy of the designer; and even the representations of the gods themselves are infinitely diversified.

The most legible and striking records of that species of art which may be regarded as especially Hindoo, are to be read in the grottoes of Carli, of Elephanta, of Salsette, of Nassuk, and of Ellora. As it is impossible in this work to convey an idea of those remarkable temples, we are fortunate in being able to refer to the admirable works of Mr. Fergusson,* whose pen and pencil have been so successfully devoted to the illustration of these mysterious remains. The monuments to which we have alluded are referred by Mr. Fergusson to various epochs, dating from the middle of the third century B.C.; and he ascribes the earliest developement of the ordinary form of rock-cut temples to the influence of the Buddhists.

That quality of imagination to which we have already referred, precluded, to a great extent, anything approaching to direct imitation among the Hindoos; and hence we find that the ornaments employed in the decoration of their edifices are, for the most part, strictly conventional. The system of bracketing-out, and placing plane on plane, is one of their peculiar characteristics; and in like manner it may be observed, that we never find in the remains of purely Hindoo art those elaborate representations of flowers and other natural objects which belong exclusively to the Mahommedan styles. So little do the arts appear to have changed in India, from the remote periods to which we have alluded, to the present time, that numerous objects are still constantly produced, in which the Mahommedan (or Persian and Byzantine) principles of art can be in no wise traced; but in which, on the contrary, the primary Hindoo elements of design are obviously predominant.

* "The Rock-Cut Temples of India," and Papers in the "Journal of the Royal Asiatic Society."

P. H. DELLAMOTTE DEL. M. DIGBY WYATT DIREXIT. BEDFORD LITH.

INDIAN EMBROIDERY ON BLACK CLOTH.

LONDON PRINTED AND PUBLISHED ABOUT 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE LXXXV.

CHINESE BRONZES,

INLAID WITH SILVER WIRE.

It has been frequently remarked, that the more intimate our acquaintance becomes with the arts of the Celestial Empire, the more clearly we are enabled to perceive in Chinese productions the prototypes of those which we have been in the habit of regarding as essentially European and modern in their origin. Thus it is usual to consider the art of damascening, or inlaying gold and silver upon vessels executed in the baser metals, as having had its origin in Asia Minor; but the exquisite and very ancient bronzes which we now engrave, as well as other existing specimens of a similar nature, show that the art attained a high degree of perfection in China at a yet more remote period.

We need scarcely call attention to the refined and almost classical forms of the objects before the reader, or the beautiful patterns in which the silver threads have been inserted, since they must at once speak for themselves. These qualities are so highly appreciated by Chinese antiquaries (who necessarily abound in a country the traditions of which ascend to the earliest epochs), that few objects of *vertù* excite a larger share of their attention than the vases and other relics of bronze, the inscriptions upon which record the perfection attained by their ancestors in the arts of beating out, casting, inlaying, and engraving metals.

M. Labarte* informs us, that for a great number of years ancient vessels of bronze have been preserved and highly esteemed in museums and private collections in China. The Emperor Yu, who was associated with Chun in the administration of the empire more than 2200 years before the Christian era, is said to have caused nine great vases of brass to be founded, upon each of which was engraved a plan and description of one of the nine provinces of the empire. The Emperor Kien-Loung, who reigned from 1736 to 1796, caused to be published (in 42 volumes folio) descriptions and illustrations of the ancient vases deposited in the Imperial Museum, in which work the fabrication of such objects is traced with considerable learning and research from the earliest period of the dynasty of Chang,—1766 years before our era; these conclusions being based on the inscriptions engraved upon the objects. A copy of this magnificent work exists in the Royal Library at Paris; and an interesting series of wood-engravings in the Great Exhibition were, we believe, a selection from its illustrations.

The beautiful colour of the metal which composes these vessels, their graceful form, and the extraordinary sharpness of their decoration and engraving, have caused the few specimens which occasionally reach Europe to realise great prices, and to become objects of special interest to connoisseurs.

In the extremely interesting museum of M. Debruge-Dumenil† a vase was preserved, with an inscription which would appear to connect it with an interesting tradition concerning the peculiar metal of which such objects are composed. The inscription states that the vase was executed under the dynasty of Ming, in the period Siouen-te, which corresponds with the years 1426 to 1436 of the Christian era. Now Du Halde‡

* "Description des Objets d'Art qui composent la Collection Debruge-Dumenil." Paris, 1847. 8vo. pp. 402.

† It must always be a subject of regret that this collection, which was replete with the most valuable information on the industrial arts of every nation and of all periods, was allowed to be dispersed by public auction, when it might have been acquired by this nation at an exceedingly moderate cost.

‡ "Description de l'Empire de la Chine." Paris, 1725. Tom. i. pp. 512.

informs us that during this period, in the reign of the Emperor Siouan-tsoung, the imperial palace was destroyed by a fire which lasted for many days, and the violence of which was so great, that a prodigious quantity of gold, silver, and brass, was melted and fused together in the ruins. The Chinese annals add, that with the material thus formed a great number of vases were fabricated, which are now very much esteemed in China and of great value. From the fineness of the casting, and the perfect colour and "patina" of the vase in the Dumenil collection, M. Labarte presumes that it was one of those so produced.

The Chinese have long been celebrated for various alloys of copper and other metals. In bell-metal, especially, their productions have been remarkable, not only for purity of tone, but for the extraordinary size and perfection which they have been enabled to give to their castings. Old travellers relate, that at Nankin there were formerly four bells, of such enormous size, that, although not swung, but only struck with a wooden mallet, they brought down the tower in which they were hung, and have long lain neglected among its ruins. One of these bells is about 12 feet high, $7\frac{1}{2}$ in diameter, and 23 feet in circumference. From the dimensions of this bell its weight has been computed at 50,000lbs.

The large Chinese bell in the British Museum is quite a modern work, but there can be no doubt that, like most of the artistic efforts of that remarkable country, it reproduces the ancient types, both in form and decoration. It is surmounted by the Imperial Dragon, and is ornamented with a number of small figures of Buddha in high relief. Nearly the whole surface of the bell is covered with inscriptions; among which are eight lines of poetry relative to the Buddhist religion. The smaller inscriptions, in the Chinese and Sanscrit character, are entitled the Prayer of Fuh (Buddha), "with a list of names of believing doctors and faithful ladies." It also bears the names of its makers; of the authorities of the Teen-pe-ling temple, near Ningpo, whence it was brought; and of the civil and military officers of that city, together with the date of its being cast,—"on a morning of the eighth moon in the 19th regnal year of the present Emperor, Taou Kwang." (A.D. 1839–40).*

The celebrated Chinese gongs are usually formed of a metal somewhat similar to that of the large bells above referred to, but more brittle in quality. They appear, upon analysis, to be composed of eighty parts of copper, and twenty parts of tin. These instruments are much used in the temples, in processions before the mandarins, and in theatrical entertainments.

Another alloy, which has been denominated white copper, and which in its external appearance somewhat resembles German silver, is well known and extensively used in China. Besides its employment for ordinary utensils, this metal is occasionally applied in a somewhat singular manner,—as an external coating to cups, saucers, &c., of porcelain. In addition to specimens of this kind in the Great Exhibition of 1851, and in Mr. Dunn's Chinese collection, the latter contained some cups of hard wood, lined and edged with white copper. A basin of this material was analysed by Dr. Fife, who describes it as "approaching to the colour of silver, and so very sonorous that, being struck by the fingers, the sound might be heard at the distance of a mile. It was malleable at a natural temperature, and at a red heat; but when heated to whiteness it became quite brittle. It was found to consist of one-half of copper, and one-half of zinc and nickel, in nearly equal proportions, with a small quantity of iron. It cost in China about one-fourth of its weight in silver."†

* Synopsis of the British Museum, 1851.

† Holland's "Manufactures in Metal," vol. iii. p. 169.

H. RAFTER, DEL.

M. DIGBY WYATT, DIREX.

GROUP OF CHINESE BRONZES.

LONDON PRINTED AND PUBLISHED AUGUST 15TH 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE LXXXVI.

STAINED GLASS,

EXHIBITED BY MESSRS. CHANCE OF BIRMINGHAM, AND WAILES OF NEWCASTLE-UPON-TYNE.

In this Plate we are presented with eight specimens of mosaic windows,* the upper executed by Mr. Wailes, and the lower by Messrs. Chance, the merits of both of whom are too well known to need any eulogium from our pen. The same description of glazing, though probably without any colour, appears to have been in use from a very remote period; as in the early French writers we find notices of glass windows, though without any reference to their being coloured. They probably consisted of white glass arranged in patterns; and the windows which Biscop, abbot of Wearmouth, caused to be made by French artists, brought over to this country for that object in the seventh century, were probably of this description.

What impulse the artists thus imported gave to the art in England is exceedingly uncertain; but a vast lacuna occurs between the age of Biscop and the first half of the thirteenth century, the probable date of the splendid glass in Canterbury Cathedral, the earliest of which we have a quantity sufficient to furnish materials for any general conclusions as to style. These windows consist of what is called medallion glass, from the subjects being introduced in a series of medallions on a richly-diapered ground. An intricate border, also in deep colours, completed the composition. These medallion windows were usually restricted to the lower parts of the building; and the clerestory lights were filled with figures often larger than life. This description of window is very rare in England, though small specimens are to be found in Chichester Cathedral and elsewhere.† Such are the windows of Salisbury Cathedral, of Chetwode Church, Berks, the Five Sisters of York, and very many others. As to the material itself, it was exceedingly thick and rich; and the effect of that forming the windows at Canterbury can almost be compared to what might have been produced had cut jewels been employed. The yellow stain, so common in succeeding centuries, was unknown, the carnations were represented by a pink-looking glass, and the figures themselves suffer from the defective drawing of the time, and exhibit stiff poses and impossible draperies.

The fourteenth century presents us with many mosaic windows in which the cross-hatched ground is omitted, and the foliage consists of natural leaves, such as the oak, maple, thorn, &c., instead of the old conventional trefoil; the newly-discovered yellow stain also gives variety to the composition. Most of the village churches of the time of the first and second Edwards were glazed in this manner; such as the chancel of Chartham Church, Kent; that of Trumpington, Cambridgeshire; and even more important buildings, such as Merton College Chapel, Oxford.

As to the mechanical processes of the glass of the fourteenth century, we may observe that it is a little thinner and less deep, as regards colour, than that of the preceding period, although the effect is by no means impaired. Flesh-coloured and white glass are used indifferently for the carnations. The white is tinctured with a lighter green, and the figures are generally well drawn. Occasionally, however, the pose is over-strained,

* A mosaic window was one which consisted of pot-metal glass, in small pieces of various colours, arranged in geometrical patterns.

† With regard to Westminster Abbey, as only a few of the medallions remain, it is impossible to say whether they were placed upon a coloured ground, or formed part of the decorations of a mosaic window; the latter is the more probable, as nearly all the English windows of the thirteenth century are composed of a sea-green glass, varied with occasional coloured figures or ornaments.

and too much sway given to the figures. It would appear that in large works, especially those connected with the royal palaces, the workmen were impressed, the coloured glass was bought from dealers, and the designing of the subjects, together with the cutting, enamelling, and leading of the glass, was executed on the spot. This was the case with regard to St. Stephen's Chapel, where John de Chester was the principal artist, besides whom, five other master glaziers are mentioned as being employed at 1*s*. per day.

The perpendicular glass, executed between 1380 and 1500, constitutes by far the largest portion of all that has survived the accidents of ages. It is remarkable for being still lighter in tone than that of the decorated period, for an almost exclusive use of the figure-and-canopy arrangement, of which an early and fine example—the work of William of Wykeham—is to be found in the windows of New College Chapel, Oxford; and for masses of white glass being largely introduced into the picture windows. Indeed, almost all the ecclesiastical work of this period consisted of coloured glass; mosaic and "grisaille" windows intermixed with heraldry being reserved for domestic use. Another favourite arrangement (sometimes, though rarely, observed in decorated work) consisted in filling the lights of the window with a series of small subjects in coloured glass, one above another, and separated only by small canopies. Such is the great east window of York Cathedral, for which John Thornton, master glazier of Coventry, was to receive 4*s*. per week for three years, besides a donation of 100*s*. at the end of each year; and if the dean and chapter approved of his work, 10*l*. over and above his salary.* Among the numerous churches containing perpendicular glass, it may be sufficient to mention St. Neot's, Cornwall, where the respective windows were the gifts of the men, the bachelors, the maids, and the wives of the town; also Fairford Church (the glass of which is generally said to be of Flemish work, although Mr. Winston, our greatest authority on such subjects, has decided it to be of English origin); and, lastly, the celebrated windows in Great Malvern Church, representing Henry VII., Prince Arthur, Sir Reginald Bray, &c.†

The windows of the domestic buildings of this period were extensively decorated with the arms of the owner and his family connexions; these for the most part consist of a regular achievement, *i. e.* shield, helmet, lambrequin, crest, and supporters, or more generally, the shield or badge only surrounded by a wreath, often of a yellow or green colour, broken up by blue or red flowers at intervals. A beautiful series of the former variety remains at Ockwells, in Berkshire.‡ We have not, however, many specimens of the Renaissance style in England in addition to the windows in King's College Chapel, Cambridge.§

During the reign of Elizabeth little stained glass was executed beyond a few coats-of-arms; but before the civil wars the chapel of Archbishop Abbot's hospital at Guildford, and that belonging to the Hon. Society of Lincoln's Inn, had been filled with coloured figures by Van Linge and his disciples. We owe the east window of University College, Oxford, to Giles of York (1687), and the lower lights of the east window of Merton to William Price. In 1718 his brother Joshua executed the east window of St. Andrew's, Holborn, a really good piece of work, and presenting a very rich effect. All these works contain a large proportion of pot-metal, the rest of the colouring being obtained by enamelling colours on the surface of white glass. However, towards the middle of the eighteenth century, this latter manipulation entirely superseded the old pot-metal system, and 1777 presents us with the "washey virtues" of Sir Joshua Reynolds transferred to glass by Mr. Jervais: since which time there has been a gradual progression towards the revival of the styles of the thirteenth and fourteenth centuries; but there is still something about every reproduction which proclaims its modern paternity, in spite of "antiquating" and smudging. Mr. Winston has lately assured us that the fault is in the glass itself, which is not composed of the same materials as that used in the middle ages, promising us some windows for the round part of the Temple Church to be executed in the new glass. When they are fixed, the public will have an opportunity of seeing how far the theory is sustained by the practice.

* During this period we find the figures drawn with more delicacy, though with less boldness. The white glass, which assumes a bluish tint, is almost exclusively used for the flesh; the ornaments again become conventional; stippled shadows are used in the draperies; and it would appear that much of the pot-metal was imported from abroad, as in 1447, John Puddie, of Westminster, the contractor for the glazing of the Beauchamp Chapel at Warwick, was to use "glasse from beyond the seas, and no glasse of England."

† Figured by Carter and Shaw.

‡ Figured in Lyson's "Britannia."

§ These windows belong rather to the perpendicular school than to that of the Renaissance. Six different master glaziers were employed upon them at one time; and although they no doubt kept their work separate, the designs probably proceeded from but one hand. The roundells (small circles containing a history or allegorical figure, usually executed in chiar' oscuro only) are also to be found about this period; but it is very doubtful if they were not all imported: indeed the Reformation put a stop to works of any extent in stained glass; and if we wish to see really good Renaissance windows, we must go to Liége Brussels, Gouda, Bourges, and Auch. The windows in the choir of Lichfield, and of Southwell Minster, are of this date, and came from Belgium.

J. CLAYTON, DEL.

M. DIGBY WYATT, DIRECTOR

STAINED GLASS BY WAILES OF NEWCASTLE UPON TYNE, AND BY CHANCE OF BIRMINGHAM

LONDON, PRINTED AND PUBLISHED AUG. 1ST 1862 BY BIRMINGHAM LITHOGRAPHERS TO THE QUEEN

F. BEDFORD, LITH.

PLATE 86

PLATE LXXXVII.

FIGURED SILK,

MANUFACTURED BY CAMPBELL, HARRISON, AND LLOYD, OF SPITALFIELDS, FOR LEWIS AND ALLENBY OF LONDON.

In the notice accompanying Plate XXII. we entered briefly into the history of the silk trade, and took occasion to commend both the energy and taste of Messrs. Lewis and Allenby as employers, and the ability and capacity of Messrs. Campbell, Harrison, and Lloyd, as manufacturers; and a more agreeable example than the present Plate affords of the joint productions of these gentlemen could hardly have been selected.

We now propose to describe in general terms some of the processes involved in the production of fabrics of this description. It is justly remarked by Mr. Ward,* that "in the supply of the raw material England possesses a decided advantage over the rest of Europe; and, if a certain portion of the finest quality of French-grown silk be excepted, an almost unlimited command over the productive resources of the world." For so favourable a commercial position, we are indebted to the improvements which our continued energy, in the invention and application of elaborate machinery to manufacturing purposes, constantly secures to us. The power of effecting the first conversion of any raw material skilfully and economically, gives to the country possessing it an immediate superiority, by at once attracting to itself the largest and best supplies of the material. Thus, as Mr. Ward observes, the machine introduced by Royle, of Manchester, for throwing silk, has "materially advanced the manufactures of this country, and rendered us comparatively independent of the Continent. Before that invention was worked we drew our principal supply of thrown silk from abroad; and as a high duty was imposed upon its importation, to protect the throwster, whose clumsy and expensive mode of throwing was a premium in favour of the foreigner, we could only procure the finer qualities of silk at a comparatively high price." Low-priced silks, which appeared almost inconvertible, have been turned to the greatest mercantile advantage, by the application of scientific mechanism. The power of manufacturing these otherwise worthless materials into fine-thrown silk has of late years been carried to such an extent in England, that waste silk has been bought up in France, brought into this country, and returned in a thrown state; "and although a duty of two francs the kilogramme is imposed upon its reintroduction there, it is cheaper and better than any silk thrown in the best of their establishments."

In Derby, Manchester, Macclesfield, Congleton, and Leek, immense factories or mills are constantly at work in changing the raw silk, brought in bales from Broussa, Bengal, China, Italy, and Persia, into varieties of thread, as different as the purposes to which they are to be applied. Mr. Dodd, in his admirable manual of "British Manufactures," describes one of these as "*dumb singles*, consisting of silk merely wound and cleaned." "This," he observes, "is used in the weaving of gauze and other thin fabrics. Another manufactured variety, called *thrown singles*, is silk which has been wound, cleaned, and thrown; and is then used in the weaving of ribbons and common silks. *Tram* is silk which, besides being wound, cleaned, and thrown, is doubled; that is, two or more thicknesses of thread are combined into one, and twisted together. This is used for the weft or cross-threads of gros de Naples, velvets, flowered silks, and the best varieties of silk goods. Another kind, called *organzine*, besides being wound, cleaned, and doubled, is twisted, or

* "The World in its Workshops," 8vo. 1851.

thrown, twice; the first twist being like the yarns that form a strand, and the second like the strands which form a rope. This forms a hard and compact thread, and is used as the warp, or long threads, for the same kind of goods as those which have *tram* in the weft. Lastly, *sewings* are compound threads of silk, wound, cleaned, doubled, and thrown, with especial reference to their ultimate uses as sewing silk."

Hence it will be seen that, in the preparation of thread, we have four principal operations — winding, cleaning, doubling, and twisting. *Winding* consists simply in transferring the silk from the form of a hank to that of a continuous thread, wound round a bobbin. *Cleaning* is performed by passing the threads through a cleft in a piece of steel, so adjusted in size as to allow them to pass freely in their proper state, but to detain and remove all fluff or other extraneous matters. The operation of *doubling* consists in winding two threads of silk from separate bobbins, in such a manner that the two shall be laid together throughout every convolution around another bobbin. Sometimes many more than two threads are thus laid together; the number depending upon the strength required for the thread to be ultimately formed. *Throwing* is simply twisting these combined threads together, so as to convert them into a miniature rope, in which all the parts are so united as to become one, in strength and durability.

The silk thread thus prepared for the weaver is, in the first instance, stretched in long parallel lines upon a warping frame, by means of a warping machine; and one end of the warp being attached to a roll of wood, called the cloth-beam, or breast-roll, the remainder is secured around a smaller roller called the beam, or yarn-roll.

In noticing Plate XXIV., we described the simple apparatus by which the Indian weaver ordinarily produces some of even his most elaborate fabrics; and from that description our readers may gather a correct general impression of the machinery essential to the production of plain woven stuffs. Silks, as at present manufactured, are divided into plain and figured goods; the difference between them being that in the former the warp threads are raised and depressed, to allow of the passage of the shuttle, in a regular alternation; while in the latter they require to be lifted in constantly varying groups; the pattern being produced by bringing the weft threads to the surface in some places, and passing them beneath the warp threads in others.

Various means of carrying out this object have been successively devised, and are still in use. Figure-weaving may be of various degrees of complexity. The warp may be of one colour only, and the weft of another, or the warp may be of one colour and the weft of several. When the latter is the case, a number of different shuttles are used in succession; each carrying a bobbin on which a different-coloured silk is wound. Occasionally the warp threads are also varied in colour, producing a striped or chequered effect. Where the pattern is exceedingly simple the warp threads may be raised or depressed by treadles, acted upon by the feet of the weaver. When, however, more elaborate forms are to be produced, the workman, with certain looms, has the assistance of a boy to raise the different leaves or heddles, to which strings are attached, connecting them with particular sets of warp-threads. The operations of tying the warp-threads to the heddles, and placing the latter in such succession that the pattern may be realised by raising them in a particular order, is technically called "mounting the loom," and is the most difficult operation in the weaver's art. The series of heddles thus arranged is known as "the harness" of the loom. As it was found that the boy would occasionally pull the wrong string, from forgetting the precise order in which the heddles were to be raised, an ingenious machine, called "the draw-boy," has been contrived, in which an automaton action pulls and releases the strings in regular and unerring succession This apparatus is, of course, a great improvement upon any involving manual labour only; but, in proportion to the complexity of the pattern, the machine becomes so elaborate, that it is found necessary to limit it to the production of patterns having what are called short "repeats."

For the production of more intricate designs, recourse must be had to the Jacquard loom. It is remarked by Mr. G. R. Porter,* that "in the course of the very few years which have elapsed since its introduction into this country, the Jacquard loom has entirely taken the place of every other method of figured silk-weaving, and has been in no small degree instrumental in bringing that curious and beautiful art to its present state of advancement. The elaborate specimens of brocade which used to be brought forward as evidence of skilfulness on the part of the Spitalfields' weavers of former days, were produced by only the most skilful among the craft, who bestowed upon their performance the most painful amount of labour."

In an ensuing article we shall trace the capabilities of silk-weaving, as aided by the Jacquard loom.

* "Treatise on the Origin, Progressive Improvement, and Present State of the Silk Manufacture," in "Lardner's Cyclopædia."

A. DIDRY WYATT DELT. J. SUTCLIFFE SCULPT.

FIG. RED SILK MANUFACTURED BY CAMPBELL HARRISON & LLOYD OF SPITALFIELDS, LONDON.

PLATE LXXXVIII.

INDIAN EMBROIDERY ON CRIMSON SILK.

The specimen of embroidery we now engrave differed from others contained in the Great Exhibition in one striking particular, inasmuch as while those had been produced by working entirely with thread, this was effected by what is called *appliqué*, a process somewhat resembling our system of patchwork,—small pieces of various materials being cut out and sewn down upon a ground. The beauty of design and perfect balance of colour manifested in this production are so obvious as scarcely to need any comment. We shall proceed, therefore, in the present article, with the subject treated in our notice of Plate LXXXIV.; devoting our attention to Mohammedan, in contradistinction to Hindoo art.

Although it is possible that many flying incursions, taking the form rather of forays than invasions, may have been made by the Mahommedans as early as the eighth century, it does not appear that any important conquest was made by them until the latter part of the tenth century. Sabuktaghin, a Tartar soldier, was proclaimed by the army monarch of Ghuznee, and we have certain records of his having twice passed the Indus, when, after devastating the province of Lahore, he returned to Ghuznee laden with plunder. On his death, in the year 997, he was succeeded by his son, the celebrated Sultan Mahmud, who was scarcely less distinguished as a zealous follower of the Prophet and an enthusiastic Arabic scholar, than as a courageous and skilful general. It is unfortunate that the contemporary records of his invasion, which were written for the most part in dialects little understood and appreciated in India, should, from that cause, have entirely disappeared; while those of his less important successors, which were in the Persian and other languages, have survived to the present time.

Although it is unquestionable that Mahmud conducted at least twelve expeditions against the Hindoos, and effected considerable changes throughout the districts which he visited, he does not appear to have established any regular government, with the exception of a tributary dominion in Lahore and the north-western provinces. No monuments attributable to Mahmud exist in India proper, but at Ghuznee there may yet be seen his Minar, or rather his Column of Victory, together with his tomb. Of the latter we are, unfortunately, not possessed of any drawings; but the former appears to correspond closely in style with contemporary Persian art.

The successors of Mahmud, degenerating in force of character, were at length overthrown at Ghuznee in 1183, by Shahab-ud-Din, who established a regularly constituted government. The dynasty, of which Mahmud was the chief, is known as the Ghaznevide, while that which succeeded is termed the Gaurian. It may naturally be supposed when we consider that these invaders, of Tartar origin, entered the country as conquerors, and retained it at first by the strong hand only, that many years elapsed before the monuments which they erected indicated the advent of any new styles of design. It is not until after the death of Kottub, who having been appointed ruler of the newly-conquered provinces in 1193, took possession of Delhi, and made it the seat of his government, that we begin to perceive any awakening cultivation of the arts. Under Shems-ed-din Altemsh, who died in the year 1235, monuments began to arise. In the celebrated Kottub Minar, a column of Victory raised to celebrate the achievements of his predecessor, and constructed in evident imitation of that of Mahmud at Ghuznee, as well as in his great mosque, Altemsh exhibits his own taste under a somewhat interesting form. The arches of the great court of his mosque would at first sight appear to be strictly Saracenic in style, agreeing in their form and general proportions with those usually executed in Persia, and throughout the

Saracenic empire. A close inspection, however, shows that, while the general form was unquestionably determined by a follower of the Prophet, the ornamental carving, which is of the most elaborate description, was entirely executed by Hindoo workmen. The state of the arts of design in India at this period presents a singular coincidence with that which existed in Sicily on the advent of the Normans. In the former country, as well as in the latter, the conquerors dictated the general form of the monuments, while the conquered were employed to carry out and realise the intentions of the invaders.

The Mohammedan kingdom once firmly established, and its religion extended and consolidated, there can be little doubt that numerous mollahs were brought from the older seats of the faith, and from the colleges in which they were educated. The frequent pilgrimages to Mecca and Medina would alone suffice to familiarise the nobles of the Indian empire with the forms of the purest Mohammedan art, and hence there can be little doubt that fresh types of form were continually imported. It is remarkable, however, that while the Hindoos, as labourers, learnt to copy, with wonderful skill, the general aspect of the designs of their masters, they yet maintained an absolute adherence to their primitive modes of working. Thus, in all the dagobahs and chaitayahs, the Hindoo arch is constructed by means of stones laid horizontally; one extending beyond the other, and each supported, after the manner of corbelling, by the stones beneath: whilst, in buildings executed by Mahommedans, similar effects are in all cases produced by voussoirs and wedge-shaped stones. Even in the present day, when a Hindoo is set to execute a Moorish arch, he will instinctively construct it according to the horizontal mode, unless otherwise specially directed. It is much more common to recognise Hindoo features in buildings of Mohammedan construction, than it is to find Mohammedan features in works executed by Hindoos alone.

Materials are wanting to enable us to trace the gradual developement of Moorish architecture in India; but the magnificence of many of its monuments bears unquestionable evidence of the extraordinary advancement of the arts of design among that rich and luxurious people. This is especially evinced in the celebrated Taj Mehal, near Agra, erected by the Emperor Shah Jehan, in the seventeenth century, as a mausoleum for his favourite wife. It is to be hoped that Mr. Fergusson, who has so admirably illustrated Hindoo architecture, may be induced to furnish the public with similar elucidations of the successive Mohammedan styles.

Throughout this article we have spoken only of architecture, since there are no existing monuments of other arts which enable us to predicate respecting them with any degree of certainty. Arguing by analogy from the history of the Arts in all countries, we may readily infer that design, as applied to industrial purposes, experienced similar fluctuations to those of architecture in every stage of its progress; and as the practised eye can at once detect and separate in any building the features which belong respectively to Hindoo and to Mohammedan architecture, so in every pattern, whether for carving, weaving, or embroidery, a very slight study of the subject will enable the student to attribute to its right source the leading features and minute details of the design.

M. DIGBY WYATT, DIREXT

F. BEDFORD, LITH

INDIAN EMBROIDERY ON CRIMSON SILK.

LONDON, PRINTED AND PUBLISHED AUGUST 13TH 1852, BY DAY & SON LITHOGRAPHERS TO THE QUEEN.

PLATE LXXXIX.

OBJECTS SELECTED FROM A DESSERT SERVICE,

PRESENTED BY HER MAJESTY THE QUEEN TO THE EMPEROR OF AUSTRIA.

EXHIBITED BY MINTON OF STOKE-UPON-TRENT.

Some of the pieces of this exquisite service we have already engraved (Plate XI.); and we need only add to the remarks we then offered, the following observations, which are justly due to the respective artists whose labours contributed to the production of this important work.

The general plan and arrangement of the service, the combination of unglazed parian and porcelain, and the general style of decoration, were the suggestions of Mr. Herbert Minton. Mr. Jeannest, the Professor of Modelling at the School of Design in the Potteries, made all the drawings; and the modelling was almost entirely executed (under Mr. Minton's daily superintendence) by three English artists. Two of these gentlemen had acquired their knowledge and skill in Messrs. Minton and Co.'s establishment; and the third, Mr. Beattie, had been for many years employed by Mr. Smith, the eminent silversmith of Duke Street, Lincoln's Inn Fields. These gentlemen were in some degree assisted by Mr. Guinet, who had been recommended to the firm by the Baron Marochetti. The painting and gilding were all executed by English workmen, long employed in the manufactory.

In a former article (Plate LXXXI.) we traced the early history of English ceramic art; and we now propose briefly to narrate its progress in the sixteenth and seventeenth centuries.

Until the end of the fifteenth century, with some unimportant exceptions, the various substitutes for earthenware, to which we have before alluded, were almost exclusively employed. Fictile vessels, probably imported from Germany and the Low Countries, were so much esteemed in Queen Elizabeth's time, as to have been mounted in a very costly manner. "An inventory of that period, of the effects of a Staffordshire gentleman, gives to *two jug stone pots, bordered with silver and gilt, with covers,* the value of 3*l.*; while *two Venice glasses, gilded and in cases, were worth only* 6*s.* 8*d.** The first impulse to the manufacture of earthenware in England was, however, given by the extensive importation, in the reigns of Elizabeth and James I., of the articles produced at Delft. In that part of the world the scarcity of stone has always led to the cultivation of the plastic qualities of clay; and Delft ware became famous in its application to purposes of general utility as early as the middle of the sixteenth century. Mr. Marryatt observes that "the Dutch ware made at Delft is celebrated, not only on account of its singularity of form and colour, but also for its excellent qualities. It is remarkable for the beauty of its enamel, which is not a shining white, but slightly tinged with blue, and presents a smooth and even surface. The articles of Delft manufactured for ornament were chiefly copied from the old Japan porcelain, both in form and colour. The exclusive communication which the Dutch so long enjoyed with Japan, had rendered them possessors of numerous specimens of this ware, many years before it was known to the rest of Europe; and, early familiarised with the quaint forms and devices of the Japanese, the Dutch were led to introduce them into their home manufacture; so admirably are the Dutch designs imitative of both the pattern and the blue colour of the original, that nothing short of the touch and a close inspection will suffice

* We are indebted to Mr. Marryatt's valuable "History of Pottery and Porcelain," for this and much other information on our present subject.

to detect the difference." It has been supposed that the Dutch, although imitating the patterns of the Japanese, derived their knowledge of the ceramic processes, in the first instance, from Italy. In ornamental works, however, they fell immeasurably short of the potters of Florence. "Blue and brown," as Mr. Aikin observes, "seem to have been the only colours employed by them, and their favourite patterns appear to have been either copies of the Chinese, or European and Scripture subjects, treated in a truly Chinese manner and taste."

As proving the early origin of the Delft ware, and, perhaps, its first introduction into England, Rapin the historian records that, in the year 1506 (temp. Henry VII.), Philip and Joan, who had taken the title of King and Queen of Castile, were driven by stress of weather into Weymouth harbour. The high-sheriff of the county hospitably entertained them, and the king, on leaving, presented him with "some immense Delft ware dishes, and some bowls of Oriental china," the latter of which were then great rarities. Mr. Marryatt states that some of these presents are still in the possession of J. B. Trenchard, Esq., of Potwell.*

Subsequently, Dutch and German pottery was largely imported into this country; and the cleanliness and beauty of the material no doubt led to the manufacture of a peculiar English ware known as Elizabethan, of which very few specimens have been preserved. It is said that this was produced under the immediate patronage of the queen, and chiefly for the use of her nobility; "and although there is no record of the fact, it is supposed that Stratford-le-Bow was the seat of the manufacture."†

One of the most interesting specimens of Elizabethan ware is that preserved at Gloucester, and known as Shakspeare's Jug; having been the property of his descendants, and represented by them as once in the possession of the poet. This jug, which is similar in form to the old Dutch or German ewer, is adorned with well-executed mythological subjects in relief. The pottery, of which it is a good specimen, is confidently presumed to be English, both from its design and execution. It was produced from a fluid paste or "slip," a process which is not known to have been then employed in other countries. Similar objects appear to justify the conjecture that "the workers in metal applied their moulds to pottery purposes, finding their trade injured by the introduction of fine earthenware. The forms, patterns, and designs of the Elizabethan ware, resemble very much the fashion of silver plate made at that period. This kind of pottery is hard, and approaches very nearly to fine stone ware; is of a dingy white colour, and is chiefly enriched with ornaments in relief of quaint figures and foliage." This manufacture was probably maintained during the reign of James I., but it was unable to compete with the increased importations from Holland; and about the year 1630 (temp. Charles I.), some of the Dutch potters established themselves at Lambeth, and for many years carried on a flourishing and lucrative trade; which, although its products are greatly altered, still exists in that locality.‡

Before, however, the Lambeth manufacturers monopolised the supply, various native works, though probably on a small scale, were established, and some of their productions are yet extant. The Strawberry Hill Collection comprised two dull white bottles of English earthenware, small in size, but proportionably great in their rotundity, inscribed respectively with the words "Sack," and "Claret," in blue letters, and the date "1646."

In the Exhibition of Mediæval Art at the Society of Arts in 1850, Lady Stafford contributed two enamelled earthenware dishes; the one presenting, in partial relief, and coloured brown and yellow, the arms of Charles I. and the royal mottoes; and bearing the inscription, "*Thomas Toft :*" and the other bearing the date of 1657, and the portrait of Charles II., who was then in exile.

About the year 1684, earthenware, and even porcelain, were made at Fulham; the famous works of Chelsea and Bow soon afterward followed, and a consideration of these in our next article will lead us to the exquisite productions of our own days.

* Hutchins' "History of Dorsetshire." † Marryatt.

‡ Amongst the articles thus introduced into common use in England, the glazed "Dutch tiles," used for the decoration of chimneys, deserve a passing notice; as, indeed, they might afford a theme for an amusing and interesting chapter. A remarkable illustration of the state of the ceramic art in England in the year 1635 is supplied by Thomas Heywood, in his "Philocothonista; or, the Drunkard Opened, Dissected, and Anatomised," (4to. London, 1635, pp. 45), a work remarkably characteristic of that era, and evidently the production of a pioneer of the Puritans, who soon afterwards obtained the supreme power in the state. The author inveighs against the intemperance of his age; and in a passage which we quote at length, as bearing immediately or collaterally upon our subject, exclaims, "Of drinking-cups, divers and sundry sorts wee have; some of elme, some of box, some of maple, some of holly, &c. Mazers, broad-mouthed dishes, noggins, whiskins, piggins, cruizers, ale-bowles, kannes; from a pottle" (two quarts) "to a pint, from a pint to a gill. Other bottles wee have of leather; but they are most used amongst the shepheards and harvest people of the country. Small jacks wee have in many ale-houses of the citie and suburbs, tipt with silver; besides the great black-jacks and bombards at the court; which, when the Frenchmen first saw, they reported at their returne into their countrey that the Englishmen used to drinke out of their bootes. We have besides cups made of hornes of beasts, of cocker-nuts, of goords, of the eggs of estriches; others made of the shells of divers fishes brought from the Indies and other places, and shining like mother-of-pearle. Infinite there are of all measures and fashions, modelled of earth, *cotili and dycotili*, single pots and double pots; some plaine, others of many colours; insomuch that the Dutchmen have removed their furnaces hither, and driven a great trade; as if our own nation and soyle could not either afford us earth and clay enough, or workemen sufficient, to maintaine our ryotts. Some I have seen made in the forme or figure of beasts; as of doggs, catts, apes, and horses; others of fishes, as dolphins, &c.: but the most curious and costly, either for workmanship or metall, are brought from China. Of glasses to quaffe in, the fashions and sizes be almost without number;" and after adverting to these, the advocate of temperance alludes in similar terms to the great variety of plate kept "in every taverne," and by "private householders;" so great in its amount and value, that "divers of good experience and judgment have been of opinion that the plate did much outvalue the coyne in the kingdom."

H. WAVE DEL.

M. DIGBY WYATT, DIREXT.

F. MORAS, LITH.

OBJECTS SELECTED FROM A DESSERT SERVICE PRESENTED BY HER MAJESTY THE QUEEN TO THE EMPEROR OF AUSTRIA, EXHIBITED BY MINTON OF STOKE UPON TRENT

LONDON, PRINTED AND PUBLISHED SEPTR 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XC.

CABINET IN OAK, WITH BRASS PANELS,

DESIGNED BY A. W. PUGIN, EXECUTED BY J. G. CRACE OF LONDON.

There must always exist a considerable difficulty in adapting the conventionalities of the style of a bygone age to objects which serve the purposes of modern luxury and convenience; we think, therefore, that much credit is due both to the designer and the fabricator of this elegant piece of furniture. Mr. Crace has shown, by the careful execution of Mr. Pugin's design, that his knowledge of the detail of the mediæval styles is not inferior to those general attainments he has long exhibited in the numerous instances of elegant modern decoration executed under his direction.

Any inquiry into the forms of the furniture in use among the inhabitants of this island for the first eight centuries of the Christian era must be entirely fruitless, from the absence of any remains of the articles themselves, and from the want of contemporary illuminated MSS.; and it is not until the Anglo-Saxons had become thoroughly civilized and united into one kingdom that we receive much information respecting them. From that time, however, we are assisted in our inquiry by numerous drawings in the MSS., and frequent notices in contemporary authors. From these sources we gather that the most common form of chair among our Saxon ancestors resembled the camp-stool of the present day, the extremities being frequently carved into the form of the heads and feet of chimerical animals. These stools or chairs, if we may trust the illuminations, were often gilt, and ornamented with small raised circles. Another variety of make was not unlike the modern chair, but was more solid, and enriched with perforations or paintings in the forms of small windows, squares, circles, &c.*

Most of the chairs and seats had cushions covered with the beautiful embroidery for which the Anglo-Saxon ladies were famous; also hangings, or wahrift, were worked for the walls of the principal chambers; and in the heroic poem of Beowulf, the "web variegated with gold," which shone on the walls, is particularly mentioned. Curtains were also used to the state beds, which had frequently a roof not unlike that of a house. The more common ones resembled the modern crib, but were quite close to the ground.

The tables were very like those now in use. In the Harl. MS. 603, one is represented of a circular shape, supported by three classic-looking legs, each consisting of an animal's head, finishing at the extremity with a claw. We find that the tables were occasionally made of the precious metals, and one is mentioned as being executed in silver by one Ethelwold, in the reign of Edgar, valued at the then enormous sum of 300*l.*

The twelfth century presents us with little or no variety in the furniture; the chairs and tables retained the same forms, and the best contemporary representations of the former are to be found in the ivory chessmen discovered in the Isle of Lewis, and now preserved in the British Museum. Fitzstephen, Thomas à Becket's secretary, tells us that he had his hall strewed with fresh rushes in summer, and clean straw in winter, in order that those guests who could not find place at his table might not soil their clothes by sitting upon the floor; and again we are told that the four knights who murdered the archbishop went into his palace and sat down upon the rushes. It is rather singular that no illumination representing the interior of a room ever shows

* In the Cottonian MS., lib. B 5, a splendid seat is represented, capable of containing three persons; the back is solid, and is decorated with small square windows; the seat is covered with rich tapestry, and the ends finish with carved animals at least three feet six inches or four feet high. The habit of painting the circular rails, &c. of furniture with small windows obtained to a comparatively late period; and the modern bedsteads, made in what is called bamboo pattern, are probably only the descendants of this Anglo-Saxon fashion.

these rushes or straw; but there can be no doubt that the practice obtained down to the time of the civil wars of Charles I., or even later.

In the thirteenth century the old Saxon fashion of hanging the walls with tapestry had fallen into disuse; the chambers were wainscoated, and often historiated with some well-known subject, such as the "Geste of Antioch," or the "Siege of Troy;" or with subjects from the Bible, as in the case of the Painted Chamber, the remaining parts of which, a few years ago, presented us with the stories of Elisha and Judas Maccabæus.

Occasionally we are told of rooms being both wainscoated and painted; it is probable that in such cases the wainscoating formed a dado, about five feet high, and the pictures occupied the wall-space above.

Many of the articles of furniture, of this and the succeeding century, were exceedingly simple in form, and were ornamented with paintings, generally heraldic; but often, as in Italy, with historical subjects. In that country a great number of these domestic pictures have been preserved; but, with the exceptions of those on the reredos and sedilia in Westminster Abbey, and in one or two other localities, every one executed in England has disappeared.

About this period the chest, or *ark*, became an important piece of both domestic and ecclesiastical furniture, and, together with a large arm-chair and a bedstead, often formed the whole contents of the bedrooms, even of the most wealthy. So great was the demand for these chests, that their manufacture became eventually a separate trade, and the prevalence of the surname of *Arkwright* testifies how large a number of artizans were once engaged in it. Many of our churches contain ancient chests of the rudest construction, braced by many a strap of iron, and secured by five, six, or even seven padlocks. These chests are probably of the beginning of the thirteenth century, or even earlier; and as they, for the most part, show their massive framing, it may not be unsafe to conclude that some of the external covering has been stripped off. The paintings in the windows of Chartres Cathedral exhibit the tradesman as keeping his goods in a chest; and when required to exhibit his wares to customers, he is represented unlocking it and taking out, one by one, the articles demanded. The wood-work was generally plain, and covered with ornamental iron-work. Occasionally, however, we meet with rude attempts at carving, as at Clymping, in Sussex. Sometimes the chests were painted inside as well as out, as seen in one at Newport, in Essex,* where the interior presents us with five figures of saints, while the exterior has been painted of a chocolate colour, with ornaments of gilt lead inserted.

In the fourteenth century we are able to obtain more information on our subject from contemporary writers, and we have even one or two of the articles of furniture remaining. The most important of these is the coronation-chair preserved in Westminster Abbey. Originally made by order of Edward I. to contain the celebrated stone on which the Scotch kings had been crowned, it is to be considered more as a piece of ecclesiastical furniture than as intended for domestic use. Accordingly we find it covered with bold, though delicate tracery, accompanied with a profusion of mouldings, and the gilding with which it is enriched is relieved with diapers and ornaments of the most elegant forms. There can be no doubt but that most of the superior class of furniture required for the royal palaces was gilt in a similar manner, which, in addition to the heraldic decorations so prevalent at that time, must have produced a very gorgeous effect. Many of the thrones represented in the MSS., and on the walls of St. Stephen's Chapel at Westminster, appear to be very rich, but they follow the type of the coronation-chair, with additional enrichment. In Shaw's book of ancient furniture, we are presented with a representation of a chair of state, which formerly appertained to the Abbot of Evesham. The elbows and lower parts appear genuine, and belong to the early part of the fourteenth century, but the back must probably be referred to a later period.

About the beginning of the fourteenth century trestles came very much into use, being found much more convenient than large tables. The latter were only employed when the space they occupied was not likely to be wanted for other purposes. Thus there is an exceedingly fine circular table in the Chapter House at Salisbury. Of the other furniture of this epoch, contemporary illuminated MSS. furnish us with representations of immoveable chairs of state, and reading-desks of the most cumbrous and inconvenient construction; but it is probable that in this, as in other cases, the illuminator has exaggerated the objects he has drawn. The furniture of an ordinary room consisted of but few pieces, and those very simple. A great bench before the fire, and a continuous seat round the room, supplied the place of the numerous chairs found in a modern apartment; while a board upon trestles, and, perhaps, a buffet covered with drapery, with some hangings on the walls, completed an interior of the reigns of the three Edwards. In subsequent notices we propose to pursue this historical sketch.

* This chest has been published in No. XI. of the "Journal of the British Archæological Association."

CABINET IN OAK WITH BRASS PANELS DESIGNED BY PUGIN AND EXECUTED BY GRACE OF LONDON

PLATE 90

PLATE XCI.

PRINTED TABLE-COVERS,

FROM DESIGNS BY MISS A. CARY, EXHIBITED BY H. AND T. WOOD AND CO. OF LONDON.

We have in other articles described the processes of spinning, weaving, and embroidering, involved in the production of the muslins and kincobs of India, the shawls of Cashmere and Paisley, and the silks of Spitalfields:—on the present occasion we shall add to our notices of textile fabrics by alluding to the ordinary woollen goods of the country, and to the application to them of the art of colour-printing, of which the subjects engraved in our plate offer such agreeable specimens. The history of the woollen manufacture would afford us matter for much interesting comment. We can, however, only remark here, that it appears to have been known to the Romans during their empire in Britain, and that although it was probably continuously practised, the records of the trade are very slight till we reach the thirteenth century. The manufacture of broad-cloth was certainly established in England soon after the year 1200. So much superior, however, were the productions of Flanders to those of this country, that the former were very generally imported, even when made, as was often the case, of wool grown in England. In the fourteenth century, Edward III. invited the Flemish weavers, fullers, and dyers to this country, where they settled in large numbers, and in various localities; and from that time to the present the woollen manufacture has formed one of the principal fields of our native industry. Wiltshire, Gloucestershire, and Somersetshire were famous for their fine cloths at a very early period; particular branches of the trade were cultivated in Norfolk and Suffolk; and on its extension into Yorkshire the manufacture gradually received its highest developement, and now reigns supreme in the large and busy towns of Leeds, Bradford, Wakefield, Huddersfield, Halifax, &c.*

In the earlier operations of spinning and weaving, the woollen manufactures present a general resemblance to those of cotton. The process of *fulling*, milling, or felting, which follows that of weaving, is the most remarkable part of the manufacture, and that which gives to cloths their characteristic appearance.

After the greasy matters in combination with the wool have been removed by the action of fullers' earth the cloth is saturated with soap and water, and beaten for two or three days, until the fibres of wool become so locked into each other as almost to hide the intersecting warp and weft threads. The *fulling-stocks*, in which this process is carried on, are hollow receptacles, in which an enormous oaken hammer, or *stock*, vibrates up and down, being kept in motion by machinery connected with a steam-engine. In this operation the cloth is thickened, and at the same time is rendered shorter and narrower. After being dried in heated rooms, it undergoes the process of *raising*. This consists in bringing up the nap, by the application either of wire brushes, or teazle, or thistle-heads, the elastic prickles on the surface of the teazles being found more efficacious for this purpose than any other apparatus. The nap being thus *raised*, either by hand or by machinery, is then cut, cropped, or sheared, to an even surface; and to this process, formerly entirely done by hand, machinery is now also applied. Many other minor operations, into which our limits preclude our entering, are necessary to the perfection of fine woollen goods; and the beautiful fabrics, the production of which reflects great credit on the

* Many absurd and conflicting laws, affecting the growth and manufacture of wool, were passed by the legislature in the sixteenth and seventeenth centuries; among others, a statute in the 30th of Charles II. directing that all persons should be buried in woollen shrouds.

enterprise and skill of Messrs. Wood and Co., have been coloured by a process in most respects analogous to that of calico-printing, of which beautiful and scientific process, so far as it applies to woollen goods, we now propose to offer a brief account.

As cotton goods are bleached before printing, so woollens are carefully scoured; these operations adding greatly to the ultimate effect of the colours employed. "There is, perhaps," Mr. Dodd remarks, "no other operation throughout the whole circle of the manufacturing arts, requiring so extensive a combination of taste, chemistry, and mechanism, as the printing of woven fabrics." A remarkable proof of the scientific skill required in this art is afforded by the various degrees of chemical affinity which wool possesses for different dyes, whether applied in the yarn or in the piece. That all wool does possess a considerable degree of such affinity, is now generally admitted. Mr. Robert Hunt observes* that silk, wool, and cotton, are all found, on microscopic observation, to be cellular in the structure of their fibres. In these minute cells the dyes to which they are subjected are lodged. "Some writers," he adds, "regard the coloured particles as only mechanically fixed in the cells. Others regard their mutual adherence as chemical, and consider affinity as the bond of union." A learned writer on the subject of dyeing† informs us that "wools present remarkable differences in their aptitude for combining with dye-stuffs, dependent upon the different structure of the imbrications of the filaments. The colouring particles seem to insinuate themselves at these pores with greater or less facility, and to be retained with greater or less force, according to the magnitude and form of the orifices. This difference in dyeing, therefore, is not due to the repulsive action of fatty matter, as has been commonly supposed, since it exists in wool, even when every particle of grease has been removed from it by alcohol and ether." The same writer observes that "Bergman appears to have been the first who referred the phenomena of dyeing to chemical affinities."

Another important scientific element in printing textile fabrics in varied colours is to be found in the fact that few dyes are capable, by themselves, of imparting their tints with the necessary durability. Other substances called *mordants*, are required to render the colours *fast* as well as brilliant; and these, even though colourless themselves, possess the power of modifying the colour of the dye or of producing different tints from the same colouring matter.

Besides *colours* and *mordants*, other liquids or mixtures, termed *dischargers* and *resists*, are used in colour-printing. *Dischargers* are used, as their name implies, to remove the colour from any part of the fabric after it has been printed. Thus, a fabric being saturated with a mordant, certain parts are printed with a discharger. The dye being then applied, it is at once fixed where the mordant is unaffected, but becomes a *loose* colour, capable of being easily washed out, where the discharger has been printed. *Resists* equally produce white patterns, but on a different principle. "The mordant is printed (not dipped) in those parts which are to be coloured in the pattern, while those which are to be kept white are previously printed with a chemical mixture, known as a *resist*, or *resist paste*. The cloth is then wholly immersed in a dye-vat, but those portions which have been printed with the resist refuse to receive the dye, and hence remain white."

Reserving for a future article some account of the mechanical processes of colour-printing, we may, however, at once observe, that in table-covers similar to those engraved, flannels, druggeting, &c., the size of the objects renders large patterns necessary; and as these do not admit of the "repeats" commonly adapted to the copper cylinders applied to calico-printing, articles of this description are generally block-printed. Although colour-printing is of recent application to woollens, it has been brought, as our present specimens will prove, to great perfection, and at a very low price. The printed table-covers formerly in use in this country were mostly produced at Leeds, and presented gold patterns upon green or blue grounds; being, in fact, simply discharges upon either green or blue cloth. Articles of the description which we now engrave were first produced in France, and, until the year 1837, Messrs. Wood and Co. imported them from Paris. In that year, however, they began to print them in this country, and their productions have entirely superseded the importation, being found so much superior in their designs and printing, and in the quality of the cloth, that for some years past Messrs. Wood and Co. have exported them to various parts of the world. The cloth used for the specimens engraved was manufactured expressly in Yorkshire; the patterns were designed by an ingenious young artist, Miss Annie Cary, of the Female School of Design, London, and printed, under the directions of Messrs. Wood, by Mr. Thos. Welch, of Merton, Surrey.

* "Hand-Book to the Great Exhibition," 12mo. 1851.

† In the "Penny Cyclopædia."

DALZIEL, DEL. M. DIGBY WYATT, DIREXT. F. BEDFORD, LITH.

TABLE COVERS, FROM DESIGNS BY MISS A CAREY,
EXHIBITED BY H & T. WOODS OF LONDON.

LONDON, PRINTED AND PUBLISHED SEPR 1ST 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XCII.

SHAWL BORDERS,

BY J. AND A. ROXBURGH OF PAISLEY.

THE manufactures of Paisley, both in their past and present state, are full of interest to the student of productive and commercial progress, and to all interested in the application of the true principles of art to the native industry of Britain. The history of the trade of the town displays, in a striking manner, the energy and enterprise of our northern fellow-subjects, and is eminently deserving of a brief record in our pages. The union of Scotland with England, in 1707, appears to have given the first impulse to the trade of Paisley; which, even before that era, had comprised coarse chequered linen cloths and handkerchiefs, with some imitations of striped muslins, locally known by the name of "Bengals." These were sold in various parts of England by pedlars, some of whom amassed considerable profits, and, settling in Paisley, soon produced a number of lighter goods, including a variety of lawns, both plain, striped with cotton, and ornamented with different figures. About the year 1730 an extensive manufacture of linen thread was commenced in the town. This, under the name of "ounce-thread," or "nun's-thread," long maintained great popularity; and when the use of cotton became general, the Paisley manufacturers, turning their attention to the spinning of thread from that material, succeeded in establishing a large manufacture of cotton yarn. Thread, to the amount of 100,000*l.* sterling in value, is now produced in Paisley; yet, as we shall hereafter have to observe, the town receives large quantities of a different description from Yorkshire.

About the year 1760 the Paisley manufacturers commenced a bold and successful competition with those of Spitalfields, in the production of a kind of silk gauze, which became so exceedingly fashionable as to supersede the produce of the London firms; several of which actually removed their works to Paisley. About 1785 the popularity of these goods declined, mainly in consequence of the reduction in the cost of cotton, which followed the introduction of Arkwright's spinning machinery; but the manufacture was partially revived forty years ago, and is still in some demand.

The decline of the silk-gauze trade compelled the manufacturers of Paisley to direct their efforts to that which long remained their chief produce, and still occupies much of their attention,—namely, the manufacture of fine muslins. For these they have acquired great celebrity; the fabrics they produce from the justly celebrated yarns of Lancashire are chiefly designed for the London market, and are of first-rate excellence. The decoration of these works, by tambouring and embroidering, has latterly afforded much employment to the females of the town. As a proof of the importance of the trade of Paisley in the last century, we may observe that the value of its products in the year 1784 was 579,185*l.*, and in 1790, 660,385*l.*

Various, however, and important, as are the fancy goods produced in this town, the manufacture of shawls is by far the greatest of them all; and to this we must now limit our remarks. Introduced at the beginning of the present century, it has since steadily increased and is celebrated throughout Europe. It is estimated that in the year 1834 the value of the shawls manufactured in Paisley amounted to no less than one million sterling, and it is now much greater. According to the "New Statistical Account of Scotland," published in 1837, the number of looms in the town was about 6000; of which 5700 were employed by the resident manufacturers, and 300 by Glasgow houses. In addition to these, 2000 looms were worked by Paisley

capital in the villages in the neighbourhood. The number of weavers, at the same time, comprised 5350 "harness" or pattern weavers, 650 plain weavers, and numerous apprentices and females, making a total of nearly 6100.*

The shawls produced at Paisley are of various kinds: silk, woollen, and cotton materials are employed, both separately and in combination; and these embrace imitation Cashmeres, barège, damasks, crapes, printed and embroidered; plain, figured, and tartan scarfs; and long and square shawls. Those most characteristic of the locality are probably the shawls made entirely of fine wool, or in which wool forms the principal material.

The genuine wool of the Cashmere goat (chiefly spun in France) has been applied to the manufacture of shawls at Paisley, and is still so employed with some success; but not such as to approach the excellence of the Oriental productions.† The worsted yarns of Bradford are universally celebrated for their excellence. These (dyed before weaving) are very largely used in Paisley, for the figured centres and borders of shawls. The taste and skill of the Paisley manufacturers are chiefly applied to the design and execution of elaborate and beautiful borders, such as those which we now engrave; and these are often woven in a broad web, comprising several repetitions of the pattern; which are afterwards cut asunder, and sewn on to the centre portion by females.

In reference to the preparation of the wool for these beautiful productions we may refer, by way of contrast, to our remarks on the Plate (XCI.) immediately preceding the present. We there described the manufacture of wool of a short fibre into milled and felted fabrics, and intimated that wool possessing a longer staple was necessary for such works as those now under our consideration. In these the fulling-mill is dispensed with; and, before it is spun, the wool is carefully combed, so as to deprive it of its feathery appendages, and to approximate it to the nature of silk or cotton. Even in the spinning, a different kind of machinery is required from that necessary for woollen fabrics, properly so called. The fine woven woollen stuffs of which shawls are made, form a branch of the general class of "worsted" goods; which, after weaving, require only a final dressing by the shearing machine, as a finish to the texture, or rather of the surface.

Much of the weaving executed at Paisley is performed by the Jacquard loom; which machine, in connexion with our notices of silk-weaving, we shall advert to particularly in a future article; but the hand-loom weavers of the town constitute a large proportion of the population. Mr. Dodd informs us that the hand-looms are arranged, six or eight in a room, on the ground-floor of many houses in the town. These are the property of individual weavers, who pay a weekly rent for the use of a portion of the room; or, as it is termed, for a "standing." In other cases, all the looms in an apartment belong to one person, who lets them for use to the poorer class of weavers. The fluctuations of demand have, at times, caused much distress amongst the operatives of Paisley; and such calamities have been often brought under the notice of the public. Even now a large number of the hand-loom weavers of the town are about to emigrate to Australia.

With reference to the shawl-patterns generally used by the manufacturers of Paisley, some evidence was given by several of those gentlemen before a Select Committee of the House of Commons on "Schools of Design," in the year 1849. It appears that, independently of the Oriental patterns, which were generally recognised as the most tasteful and effective, the best "Cashmere" patterns (so called) were obtained from France; and that the local designers were chiefly occupied in copying from and rearranging them. The necessity for greater novelty and variety of design was freely acknowledged by the witnesses, and anticipations of much benefit from the then newly-established School of Design in the town were confidently expressed.

That these anticipations have been in some measure realised, we may infer from the works contributed by no fewer than sixteen Paisley manufacturers to the Great Exhibition of all Nations. These comprised Cashmere, barège, crape, and tartan, shawls and scarfs; woven, printed, and embroidered; plain and fancy muslins; merino dresses, and a variety of other fabrics, which fully sustained the high and deserved reputation of this interesting emporium of North Britain.

* Mr. Dodd ("British Manufactures," 1844) gives the numbers employed "in the shawl manufacture," about a year before that time, as follows:—4000 pattern weavers, 1000 plain weavers, 3000 or 4000 "drawboys," or assistants; besides 4000 or 5000 weavers in Bradford and its vicinity, engaged in preparing the plain centres of shawls.

† See former articles on Cashmere shawls. We may here advert to the Cashmere goats kept by H.R.H. Prince Albert in Windsor Park. Some interesting fabrics, in part manufactured from the wool of these animals were included in the Great Exhibition of last year. These were described in the Catalogue as two brocaded dresses, in which the weft was of Cashmere wool, and the warp of silk; and two shawls, with a specimen of coarse cloth, entirely manufactured of the wool.

M. DIGBY WYATT DIREXT

F. BEDFORD LITH.

PORTIONS OF SHAWLS EXHIBITED BY ROXBURGH & C° OF PAISLEY

LONDON PRINTED AND PUBLISHED SEPTR 1ST 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE XCIII.

GROUP CARVED IN IVORY, AND OBJECTS OF GOLD AND SILVERSMITHS' WORK,

EXHIBITED BY FROMENT-MEURICE OF PARIS.

THE name of the distinguished manufacturer by whom the objects we engrave have been produced, has become proverbial in France as a guarantee for the highest class of workmanship in the precious metals. Worthily, indeed, has he sustained the reputation acquired for his country in that branch of art, by Launay, Ballin, Grossier, Germain, and others, in the reigns of Louis XIV. and XV. In the French Exposition of the year 1839, M. Froment-Meurice obtained a silver medal; and the honours of the gold medals which he received in 1844 and in 1849, have been crowned by the award of a Council Medal in the Great Exhibition of all Nations in 1851.

In the "Report" of the Exposition of 1844,* the career of this distinguished artist is traced by the Vicomte Hericart de Thury, the reporter to the jury appointed to examine the products of the jewellers' art; who observes that the whole life of M. Froment-Meurice has been devoted to the especial study and cultivation of his art. Hence, we are told, he has been enabled to place himself at the head of the French jewellers, and to become, as in the age of the Renaissance he would probably have been styled, a "Master Silversmith of the first rank." Destined from his childhood to succeed his father, in an establishment formed at the end of the last century, he followed in his boyhood a severe course of study, both in drawing and modelling. He examined with avidity the relics of the great masters of the time of Michael Angelo, Ghiberti, and Cellini, and completed his education by a long apprenticeship to a practical chaser. Thus, from an early age, he was accustomed both to conceive and to execute. Wagner was his model, and at the same time his rival. Like Wagner, he drew his inspirations from the best works of the fourteenth, fifteenth, and sixteenth centuries; and like him he gathered his ideas from the rich and precious collections of the museums of Charles X., of the Bibliothèque Royale, of M. du Sommerard, of M. de Bruges, and others. As a draftsman and an experienced manufacturer, the merits of M. Froment-Meurice were recognised by the Silver Medal of 1839, but since that period his progress has been remarkable; and, assisted by the first sculptors, chasers, and architects of France, he has attained a double end: first, in recording, by his own important works, the talents and the processes of the ancient masters; and, secondly, in so applying beauty of style to the setting of jewels of every value, as to bring the graces of his art within the reach of ordinary citizens.

It may be regarded as a result of his success in the Exposition of 1844, that M. Froment-Meurice obtained the appointment of silversmith to the town of Paris, and was selected to co-operate with MM. Gatteaux, Paul Delaroche, and Visconti, in superintending the execution of the sword of the Comte de Paris. Other orders of the most important kind flowed into his workshops; and his business, which in 1839 had given employment to only twenty-five workmen, and realised only 200,000 francs per annum, had, even in 1844, extended itself so greatly as to give occupation to eighty artizans of the highest class, and to produce an annual return of no less than 640,000 francs. Excellent, however, as the commercial position attained by this artist had become, it could scarcely be expected to exempt him from the troubles which, in the year

* Vol. iii. p. 167.

1848, produced such disastrous consequences to the industrial arts of France. From these, indeed, he suffered very greatly. Many of the principal commissions which had been entrusted to him were withdrawn; and, but for the assistance of some noble and enlightened patrons—especially of the Duc de Luynes—his operations must have been perfectly paralysed in that eventful era.

The contributions of M. Froment-Meurice to the Great Exhibition prove, however, how vigorously he struggled with and overcame these difficulties; and of all that brilliant display, the objects we now engrave, if not the most important, were certainly among the most elegant and pleasing. In the ivory group, representing a Nymph pursued by a Cupid, the talents of M. de Triqueti have been admirably brought to bear. This artist has acquired an extensive reputation by his bronze gates to the Madeleine, and in the production of numerous vases and other small objects he has displayed great originality of composition, and a deep study, not only of the antique, but of the best masters of the Renaissance. His style of chasing differs essentially from that of Ghiberti and Sansovino, and recalls the singular boldness of the manner of Pollaiuolo, Verrocchio, and Donatello. A comparison of this group with that executed by the celebrated and lamented artist Pradier, for the benefit of the poor of Paris (also exhibited by M. Froment-Meurice), certainly tends to the advantage of M. de Triqueti, and it would be almost impossible for any artist to surpass the refinement of execution which characterises this delightful work. The style of modelling and sharpness of treatment remind one forcibly of the exquisite little terra cottas of Clodion.

The salt-cellars shown in the Plate are selected from a set representing the Seasons, executed for the Duc de Luynes. The other objects are specimens of the ordinary workmanship of this great Parisian goldsmith.

Among the other works of M. Meurice, we must allude to a remarkable silver toilet-table, ornamented with sculpture, carvings, enamels, and precious stones, and presented by subscription to H.R.H. Louisa-Maria-Theresa of France, on her marriage with Charles-Ferdinand de Bourbon, the Infante of Spain and Hereditary Prince of Lucca. In the production of this object, all the most able artists employed by M. Froment-Meurice have concurred; and, besides the name of that gentleman himself, we find among them those of MM. Feuchères, Geoffroy, and De Chaume: the ornaments were executed by the celebrated wood-carver and designer, M. Lienard, and the enamels (from the designs of M. Feuchères) by MM. Solier and Meyer, of Sèvres. The centre of a table, executed for the Duc de Luynes, was ornamented with a group which, not only from its intrinsic beauty, but from the peculiar processes involved in its execution, was a most remarkable specimen of modern silversmiths' work; and, as such, we hope to allude to it more particularly hereafter.

Not content with his command over the precious metals, M. Froment-Meurice has also shown his ability to raise the value of iron, by the application of artistic design, so as to rival that of the more costly materials; and the highest perfection of smiths' work in miniature was displayed in the elaborate jewel-case in wrought iron executed for the Comte de Paris. It would appear impossible to surpass the excellence of our artist's work in personal jewellery, in which he has revived many of those graceful forms exhibited in the celebrated productions of Le Petit Bernard, Gilles l'Egare, and Toutin.

It is always gratifying to meet with an acknowledgment, on the part of eminent manufacturers, of the assistance derived from those who have co-operated with them in the execution of their finest works. Thus M. Froment-Meurice brought before the notice of the jury of 1849 the merits of his foremen, MM. Babeur and Wisset, as well as of MM. Fremonteil and Croville, who were originally his apprentices, and had been constantly employed in his manufactory for twenty years. The chasers, who executed the figures in *repoussé* for the Duc de Luynes, were MM. Muleret, Alexandre Daubergne, Fannière, and Poux. Three of these gentlemen received their education in the *atelier* of M. Vechte, whilst M. Fannière is a nephew and pupil of the celebrated Fauconnier. M. Solier, the enameller, has given proofs of the greatest talent, and M. Lienard has largely contributed to elevate the taste of French industry.

To the particulars already given of the establishment of M. Froment-Meurice, we may add that, in 1847, he employed 120 workmen, whose daily earnings varied from four to ten francs, whilst his business produced 1,100,000 francs in the twelve months. It is to be hoped that the restoration and continuance of tranquillity in France will compensate him for the anxiety and losses which he has sustained from its interruption.

L. H. MICHAEL, DEL.

M. DIGBY WYATT, DIREXT.

J. A. VINTER LITH.

STATUETTE IN IVORY, AND OBJECTS IN GOLD AND SILVER, BY FROMENT MEURICE OF PARIS

LONDON, PRINTED AND PUBLISHED SEP.R 1ST 1862, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE XCIV.

AN OPEN-WORK PANEL,

CAST IN BRASS BY BAILEY AND CO. OF LONDON.

The firm, of whose productions we now engrave a pleasing specimen, has long been well known for the taste it exhibits in ornamental metal-work. Among Messrs. Bailey and Co.'s contributions to the Great Exhibition, were many of great excellence, and we may particularly commend the hall-stove which was placed in the nave of the building, and the grates and door-fittings exhibited in the Hardware department. Their specimen of ornamental railing in the Fine Arts Court was unquestionably one of the best pieces of metal casting in the whole collection.

The beautiful metal commonly known by the name of brass, appears to have been in use from the earliest ages. It is composed of copper alloyed with zinc, and is to be carefully distinguished from bronze, in the composition of which the copper is alloyed with tin. It is remarkable that zinc, as a distinct metal, was only produced at the end of the last century, whereas the ore known by the name of cadmia has long been, and is still, employed for the purpose of gardening and alloying the pure copper. This cadmia, or lapis calaminaris, was obtained from mines worked expressly for its production; of which the most famous, the Sallustian, in Savoy, and those called the Livian in Gaul, were already exhausted in the time of Pliny, and the ore was obliged to be procured from Spain.

Copper is generally designated in ancient languages by the same word as that applied to its various alloys. We are, therefore, placed in great doubt whether the vessels of the Tabernacle and of Solomon's Temple were manufactured from copper, brass, or bronze. The same uncertainty prevails with the Greek Χαλκος, and the Latin *Æs*. The Romans, however, appear in the time of Pliny to have distinguished brass by the title of *aurichalcum*. This metal was much less used than bronze, and Procopius informs us that it was almost equal to silver in value; which probably arose from the difficulty of procuring the cadmia.

The earliest mention of brass is to be found in the sacred writings, where we read in the book of Genesis that Tubal Cain was the "instructor of every artificer in brass and iron;" and although the word here used in the original might only allude to copper, Josephus distinctly states that Tubal Cain first invented the art of making *brass*. The same author also tells us, that the plates with which the altar of burnt-offering was overlaid were as bright as gold,—a fact which would appear to indicate an alloy of copper not unlike pinchbeck, and disproves the idea that mere copper is intended. The casting of the brazen laver must have been a work of some magnitude; the staves of the brazen altar were also overlaid with brass, and the majority of the vessels used in the Temple were formed of this metal. The artists employed in these works were Bezaleel of the tribe of Judah, and Aholiab of the tribe of Benjamin: their knowledge of their craft was probably acquired in Egypt. This knowledge must, however, have been subsequently lost or greatly diminished, as we find that Solomon, when furnishing the Temple, obtained the services of the Tyrian Hiram, whose father, we are told, was a worker in brass. Under his directions were cast the Molten Sea, and the two great brazen pillars, Jachin and Boaz.

About the same time Homer sings of the χαλκοχιτωνες Αχαιοι, or, as it is generally translated, "the brass-clad Greeks;" and from the whole of his poems we may infer, that although the use of iron was known and taken advantage of for agricultural implements, yet the armour and arms, as well as most of the cutting instruments, were made of some alloy of copper. If we may credit Hesiod, the use of copper or bronze was anterior to

that of iron. We may here specially notice the celebrated Corinthian brass. According to Pliny, this alloy was discovered by the accidental mixture of molten metals during the sack of Corinth by the Roman Consul Mummius, 146 B.C.; but it was probably a species of bronze, into the composition of which the precious metals largely entered. The particular character of this metal must, however, remain a matter of doubt, as no specimens of it have come down to us; and the same author relates, that at the time he wrote the art of making it was already entirely lost.

The various weapons and instruments of our British ancestors appear all to have been made of bronze, not brass; and, indeed, we hear but little of the use of the latter metal until we come to the middle ages.

In the beginning of the thirteenth century the manufacture of brass was extensively, if not exclusively, practised by the people of Flanders, by whom it was exported in large plates of various thicknesses. These were occasionally melted, and the metal converted into domestic utensils and ecclesiastical furniture, but by far the greater portion were used in the shape in which they were imported. One important way in which they were employed was for those sepulchral monuments which are even now frequently met with in our country churches. The earliest of these of which we have any record is that of Simon de Beauchamp, earl of Bedford, A.D. 1208; this, however, has long since been destroyed, and the tomb of Sir John d'Aubernon, A.D. 1277, is now the first of a long series of monumental brasses, which reach down to the time of Charles II., or even later. It may, perhaps, be taken as a corroboration of the statement that all this "latten," or brass, was imported, that these monumental slabs abound chiefly in the southern and eastern parts of England.

"The effigies of gilded yellow metal existing in Westminster Abbey—the memorials of Henry III. (1272), and Queen Eleanor (1298)—are not less remarkable for skilful execution than tasteful design. Mr. Hunter, in his paper on the honours paid to the memory of Eleanor ('Archæol.' xxix. 191), has shown that these were the work of Master William Torel."*

"The finest existing effigy of the fourteenth century is that of the Black Prince at Canterbury (1376), formed of gilded latten, cast, chased, and partly enamelled. Of all these statues excellent representations have been given by Stothard. The fine figures at Westminster of Richard II. and Anne of Bohemia, of which engravings are given in Hollis's 'Monumental Effigies,' were cast and wrought in England, as appears by the contracts with Nicholas Broker and Godfrey Trest, citizens and coppersmiths of London, dated 1395, which minutely describe the rich metal decorations of the tomb."†

Brass was much employed in the manufacture of ecclesiastical furniture; thus, as early as the middle of the thirteenth century, Henry III. ordered a brass lectern to be made for the Chapter House at Westminster, similar to one already existing at Salisbury. A considerable number of these lecterns are still to be found in various parts of the country; but they are more frequently met with in the eastern than in the other counties. Their shafts appear to have been cast and then turned in a lathe, and the eagles were finished up with the chisel or graver. A great number of the common reliquaries, monstrances, crosses, and other sacred vessels, were made of very thin latten, and afterwards gilt; and when well executed, they can scarcely be distinguished from the works in the precious metals.

The principal places whence this latten was imported were Bruges, Namur, Liege, Ghent, and Cologne.‡ In all these cities, and, indeed, throughout Belgium, the churches are rich in brass fonts, lecterns, screens, sconces, candelabra, and sepulchral slabs, which have once contained brass effigies. Some of the fonts are of a very early date; that, for instance, in the Museum at Brussels, is said to have been a present from Charlemagne to the church at Tirelemont; others are as late as the middle of the seventeenth century.

The art of making brass was not introduced into England until the middle of the seventeenth century; previously to which time, however, this country had become famous in the casting of brass cannon, which art probably gave an impetus to the manufacture of brass from calamine. The metal continued, notwithstanding, to be imported for some time after its manufacture was introduced, as we read of laton being one of the articles imported in 1638 by the company of Merchant Adventurers. The tables are now completely turned, and England has become the great exporter of brass, and articles manufactured at Birmingham are to be found in every quarter of the globe; the trade of the Flemish towns being, for the most part, restricted to their own country.§

* "A Glossary of Terms used in Classic, Italian, and Gothic Architecture." Parker, Oxford.

† Rymer, vii. 797.

‡ The ornaments of the Beauchamp tomb, Warwick, were to be "of the finest laton," and the plate beneath the figure was to be made of "the finest and thickest Cullen (Cologne) plate."

§ For particulars of the Birmingham brass manufacture, see Article on Plate XLIII.

F. SMALLFIELD DEL.

M. DIGBY WYATT, DIREXT

F. BEDFORD, LITH.

AN OPEN-WORK PANEL, CAST IN BRASS BY BAILEY & Co OF LONDON

LONDON, PRINTED AND PUBLISHED FEBRUARY 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE XCV.

PAPER-HANGING,

BY TOWNSEND AND PARKER OF LONDON.

In our notices of Plates XLII. and LXXI. we have fully described the tapestry and other hangings which formed the earliest mural decorations in England. The first papers employed were of the kind known as flock papers, in which, as at present made, fragments of woollen cloth, cut into a sort of down, and dyed, are sprinkled over a pattern printed in japan gold size. These appear to have been originally meant as an imitation of the figured tapestries and other textile fabrics previously used for the same purpose.

In the year 1634 Jerome Lanyer (Lainier?) obtained letters patent from Charles I., for a process which he described as "affixing wool, silk, and other materials, of divers colours, upon cloth, silk, cotton, leather, and other substances, with oil, size, and other cements, to make them useful for hangings;" but the earliest accounts of these new hangings do not allude to *paper* as forming the groundwork, nor to any method of printing them from blocks. Some early flock paper-hangings may be seen at Hampton Court Palace, and Mr. Cowtan, who read a paper on this subject at the Decorative Art Society, in 1844, produced a specimen 110 years old.

The coloured paper-hangings of the last century (which imitated paintings, as the flock papers did tapestry) were printed by a process similar to that for hand-block calico-printing. The ground colour having been first laid on, the paper was printed by a series of wooden blocks, each of which applied a separate colour, and the whole together rendered the pattern perfect. This mode is still practised; but in the early history of paper-staining only the outlines were thus printed, the patterns being painted by hand in distemper.

In the reign of Queen Anne (A.D. 1712) a duty of 1¾*d.* per square yard was imposed upon paper-hangings, independent of the duty on the paper itself; the ultimate effect of which was that none but men of capital could carry on the business, which consequently grew into a monopoly.

In 1754 a Mr. Jackson had established a factory at Battersea, and appears to have attained a high degree of perfection, both in flock papers and colour printing. He published a work, in which he especially advocated the merits of papers of classic design in chiar'-oscuro; and urged the reproduction in that manner of "the most celebrated classic subjects, statues, and landscapes." In fact, as a writer in the "Journal of Design" remarks, "he undertook the execution of imitations of statues—'lively portraitures'—of gods and goddesses, in chiar'-oscuro, on paper." Mr. Jackson reprobated, in animated terms, the imitations of Chinese papers, which had then attained much fashionable admiration. Paper-hangings, we may here observe, have been used in China from the remotest antiquity; and, however grotesque they may be, the lively representations of plants, flowers, birds, butterflies, &c. with which the Chinese hand-work papers are covered, are rarely either inharmonious in colour, or slovenly in execution. These productions were largely imported soon after the establishment of the great trading company of "Merchant Adventurers" to the East; very high prices were given for them at the celebrated China auctions of the time of Queen Anne; and, notwithstanding the remonstrances of Mr. Jackson, the English imitations of them long enjoyed great popularity.

Somewhat later than the time of Jackson, the names of Tootle and Young, Boyle, Graves, Pickering, Hall, &c., are met with as English paper-stainers; and under their care and energy the English papers began to acquire a continental reputation, and a considerable export trade was established. Our goods were forwarded to America, to Spain, and to several other Europane countreis.

In 1786, George and Frederick Echardts established a manufactory at Chelsea, where they produced works of very great excellence. Mr. Cowtan states that "they adopted a method of applying copper plates engraved to form the outlines, and, by an underground of silver and gold, worked up by hand in varnish colours, effects of the most beautiful kind were obtained;" and we are told by Mr. J. G. Crace, joint-reporter to the Jury on these objects in the Great Exhibition, that "works excelling even those of the present day were produced by Messrs. Echardts at Chelsea. Some of the blocks used by them," he adds, "are at present in the possession of the writer of this Report. They have great merit in the designs, and are some of them eight feet in length." These skilful manufacturers printed not only on paper, but also on silk or linen.

Simultaneously with the establishment of the Chelsea works, Mr. Sherringham commenced the business which he so long carried on with remarkable taste, skill, and energy, in Great Marlborough Street. This justly eminent manufacturer (from whose establishment many of the leading decorators of the present time have emanated) is described by Mr. Cowtan as the "Wedgwood" of paper-hangers. He secured the talent of some admirable foreign artists; among others, La Brière, Boileau, Louis, and Rosetti, and infused the highest beauty and grace into the artistic department of his trade. He was the first to produce what are known as arabesque papers with any degree of excellence.

We are induced to believe that the establishment of Mr. Harwood, an equally eminent promoter of this manufacture, might be dated even earlier than the two to which we have just referred. The late Mr. Clarke of High Holborn (to whose talents and exertions we shall have occasion to advert hereafter, in connexion with an article on French paper-hangings), informed us that Harwood, who possessed a large capital, purchased, about the middle of the last century, a business which had been for some time established at Chelsea. He further stated, that whilst Battersea Bridge was in course of erection (or repair) Harwood's labourers turned out on strike, and that the enterprising manufacturer supplied their places by the men engaged upon the bridge, whom he instructed in his manufacture, and kept in profitable employment as long as they were able to work. Harwood originated the papers in which a bronze, or imitation gold, powder is laid on in a similar manner to the flock; and he is entitled to the especial merit of inventing satin-papers, or, in other words, of imparting to the ground of his papers a brilliant white gloss, produced either by a size varnish or by friction. The secret of this process was purchased, about the end of the last century, by Messrs. Bereers, the eminent colour-makers of Hackney, and the colour manufactured by them was used by all the English paper-hangers. Although rivalled by the barytes white, it remains, for all ordinary purposes, unequalled to the present day. Mr. Harwood was succeeded, in the same place, by Messrs. Stevens and Mac Clary; the former of whom retired from the business with a large fortune, and the establishment afterwards passed into the hands of the late Mr. Stuteley, by whom the business was carried on in St. Martin's Lane, where steam power was applied to the machinery with very great effect. Mr. Stuteley introduced a large machine for printing numerous colours simultaneously, on the principle of calico-printing. This has passed into the possession of a firm in Manchester, who apply it to the production of large quantities of paper-hangings.

One of the most effective processes in paper-staining is that known as rainbowing. This is the production of a shaded or blended ground, consisting of graduated tints of a particular colour; and, unlike many of the mechanical improvements introduced from time to time, it is of foreign origin, and was probably first used in Switzerland. Messrs. Clarke and Henderson, of Bond Street, introduced this process into England in 1825; applying cylinders, instead of the handwork process which had before been used in Paris.

About the year 1826 the stencil-plate system of obtaining a continuous line was superseded by what is known as the ruling-trough process; and this, together with bronzing and other English refinements in the art, was introduced to the French manufacturers in 1829 and 1830, by the late Mr. Clarke.

The Government restrictions on this trade have heretofore borne heavily upon it. Besides the duties already referred to, the manufacturers were long charged with an annual payment of 20*l.* for a license. When, however, the duty on paper was reduced, and that on printing abolished, the market was at once thrown open; and innumerable improvements have since taken place, aided to an immense extent by the facility of manufacturing papers of the requisite length in one entire piece. Although the old manufacturers soon retired from the struggle of great competition and small profits, the public has largely benefited; and the general diffusion of taste, together with the excellence of modern manufactures, as evinced in the specimens we have now, and in former numbers, laid before our readers, justify the hope that England may ere long regain its former supremacy in this important branch of decorative art.

PLATE XCVI.

BOOKBINDING.

DESIGNED BY W. LEIGHTON, AND EXECUTED BY J. & J. LEIGHTON OF LONDON.

In our notice of Plate LII. we described the processes of ordinary leather binding, and noticed the early history of that art in England to the days of Roger Payne. That distinguished binder flourished in the latter nalf of the eighteenth century, and was not only perfect in his handicraft, but showed especial taste in the adaptation of his ornaments to the subject of the works he bound. Some of these, such as French romances, were powdered with *fleurs-de-lis:* his books on chivalry had suitable devices, such as helmets, spurs, and gauntlets; and on poetical works he used a simple lyre. He did all with his own hands; from the folding, beating, and sewing, to colouring his end papers, and making his own tools and letters. One of his bills, which is still extant, has been often quoted as a curiosity. It is as follows:—"Vanerii Prædium Rusticum. Parisius, MDCCLXXIV. Bound in the very best manner, in the finest green morocco, the back lined with red morocco. Fine drawing-paper, and very neat morocco joints inside. Their was a few Leaves stained at the foredge, which is washed and cleand, 0:0:6*d.* The subject of the Book being Rusticum, I have ventur'd to putt The Vine Wreath on it. I hope I have not bound it in too rich a manner for the Book. It takes up a great deal of time to do These Vine Wreaths. I guess, within Time, I am certain of, measuring and working the different and various small Tools required to fill up the Vine Wreath, that it takes very near 3 days' Work in finishing the two sides only of the Book; but I wished to do my best for the work, and at the same time I cannot expect to charge a full and proper price for the work, and hope that the price will not only be found reasonable but cheap—0:18*s*:0*d.*"

Harley, earl of Oxford, who collected the library which bears his name, usually had his works bound in red morocco, with a broad-tooled border and centre ornament, from which the Harleian style takes its name. Old Johnson, an English binder of the last century, was remarkable for his excellent work, both in calf and morocco. Most of the books in the library of the late Mr. Beckford were bound by Charles Lewis and Kalthœber, a German. The plain morocco work of the latter is excellent. Baumgarten, Staggemeir, Bohn, and other German binders, also distinguished themselves in England. The admirable workmanship of Hering has caused his binding to be justly prized; and the name of Mackinlay also deserves honourable mention. Mr. Clarke, of the well-known firm of Clarke and Bedford, was famous for his "tree-marbled calf." Many of his specimens are of plain morocco externally, but finished with leather joints inside, and sewn with silk upon bands. Some beautiful examples of his partner's skill in rebinding old books are preserved in the Grenville Library. Much of the great improvement which has of late years taken place in book-binding is due to Mr. Hayday, and, as far as execution is concerned, he is faultless. Mr. Cundall, to whom we are indebted for these notices of modern binders, exhibited to the Society of Arts a volume by this artist (in imperial folio), for the execution of which 57,000 separate impressions of tools had been required.

The art of bookbinding attained great perfection in Italy in the fifteenth and sixteenth centuries; and many exquisite works of that era still exist, which are remarkable for the taste and elegance of their scroll-work and other patterns, both in blind and gold tooling, upon white vellum. Roscoe, in his "Life of Lorenzo de' Medici," vol. ii. p. 79, describes the bindings of the manuscripts collected by Piero and Lorenzo.

The greatest patron and promoter of binding in France was the famous Count Grolier, who was born in 1479. He was grand treasurer to Francis I., and was sent by that monarch as ambassador to Clement VII. During his abode at Rome, as well as at Basle and Venice, he secured the most precious copies of books which could be purchased. These he had bound in a sumptuous and tasteful manner. The title of the book was marked in gilt letters upon one side, and upon the other the words, "Portio mea Domine sit in terra viventium." Beneath the title were the words "Jo. Grollieri et Amicorum." De Thou, who himself possessed a magnificent library, specimens from which are much prized for their bindings, remarks that, "considering the number of presents which Grolier made to his friends, and the accidents which followed on the dispersion of his library, it is surprising how many of his volumes yet adorn the most distinguished libraries of Paris." Some specimens of Grolier's binding are engraved in Shaw's "Encyclopædia of Ornament."

Connoisseurs in bookbinding also attach a high value to works from the library of Maioli, whose style was very similar to that of Grolier; and the books of Diana of Poictiers constitute another much-admired class of works. These were probably designed by Petit Bernard, and were bound in morocco of all colours, ornamented with her favourite emblems.

The Chevalier d'Eon used to bind books in calf, with ornaments copied from the Etruscan vases. Padaloup, De Sueil, and De Rome were highly celebrated among French bookbinders, and their respective styles are described by Mr. Cundall in the Essay quoted in our former article.

Of late years, very great changes have taken place in the bookbinding trade, principally through the application of machinery to the production of what are now known as "cloth covers." All will remember the old drab and blue paper boards in which the novels of the commencement of the present century were invariably cased; and the contrast which they furnish to the neatly-covered shilling volumes of our own day is a gratifying proof of the spread of taste and manufacturing ability. We have seen that, in the patterns executed upon leather binding, the effect is produced by the employment of a number of separate tools, applied by the hand of the workman. In cloth binding, on the contrary, the effect is obtained by one stroke of a machine. The pattern is, in the first instance, drawn upon the hardest roll-brass, and the field is then cut away, leaving the pattern in relief, as in a wood-engraving. The brass dies are then heated, and impressed by the machine upon the "cloth covers," upon the surface of which the gold-leaf has been laid. The pressure at once fixes the gilded pattern upon the cloth, and the superfluous gold is wiped away. The speed with which this operation is effected, enables the most elaborate designs to be produced at an exceedingly small cost. One great difference between leather and cloth binding consists in the fact that, in the former, the boards are first attached to the book, and then covered with the leather; whereas in the latter the boards are covered with the cloth, made up into complete cases, and gilt as we have described, previous to their attachment to the sewn portion of the book.

The "embossing machine" has been employed for many years in producing tasteless and monotonous Gothic patterns for the covers of cheap Bibles and Prayer-books; but, aided by the taste and spirit of the Messrs. Westley and Leighton, many tasteful and original designs have been latterly applied to it.

A great number and variety of beautiful designs for cloth and other machine-binding has been made by Mr. William Leighton, better known by his sobriquet of "Luke Limner;" and the admirable specimens which we have now engraved are due to the artistic talents of that gentleman. In spite, however, of his successful labours, it must be remarked that the decoration of book-covers has not generally received that attention from artists which it deserves. A writer in the "Journal of Design" points out the error which is often made, of preparing drawings for this purpose "as if they were to be printed in black, as on paper, with a white ground; whereas the reverse of this is needed. The subject, when used, produces light (or gold) on a dark surface, and this difference should always be observed. The dies are cut too often by tasteless engravers. All artists who may design for bookbinders' dies should draw in gold ink on black paper, as they will then see the desired effect."

Our space will not permit us to do more than refer in the most general terms to the various materials which have been recently employed for external binding, in addition to paper, leather, and cloth. Conspicuous among these may be mentioned carved wood, ivory, and ebony; plastic imitations of those materials in gutta percha, papier mâché, &c.; stamped wood, and other materials, occasionally plated by the electrotype process. Among the artists who, besides Luke Limner, have assisted in varying and improving the character of ornamental binding, we may particularly notice Mr. Owen Jones, Mr. Henry Cole, Mr. Cundall, and Mr. Shaw.

PLATE 96

M. DIGBY WYATT, DIRECT.

JUSTINE DEL

F. BEDFORD, LITH.

PLATE XCVII.

TERRA COTTA FIGURE OF GALATEA, AND GROUP OF MAJOLICA GARDEN VASES,

BY MINTON OF STOKE-UPON-TRENT.

It is now our pleasing task to add another, and not the least beautiful and interesting, to the illustrations we have already furnished of the varied productions of Messrs. Minton and Co. The figure of Galatea, which forms the principal object in our Plate, has been executed in an improved species of terra cotta, adapted to the variable climate of this country. It was modelled under the superintendence of Mr. Herbert Minton, from the design of M. Carrier, a French artist in the employment of the firm; who succeeded M. Jeannest as professor of modelling in the School of Design in the Potteries.

Mr. Minton's imitation of the old Majolica and Navarre wares, as applied to vases, has be already noticed. Our readers will doubtless remember the stove of enamelled tiles in the Mediæval Court of the Great Exhibition, so successfully executed for the Earl of Shrewsbury, from the designs of Mr. Pugin.* His success in that work encouraged Mr. Minton to apply the same kind of enamel to the imitation of the old Majolica garden vases; and the specimens which we now engrave so strikingly evince the taste and manufacturing ability with which this beautiful branch of art has been revived, that it only remains for us to observe that these admirable effects are produced at a much more moderate cost than by the ordinary method of painting.

We take the opportunity afforded by the present illustration to resume the historical notices of English earthenware commenced in the remarks accompanying Plates LXXXI. and LXXXIX.

About the year 1684 a manufacture of earthenware was established at Fulham by a man named Dwight; who not only produced a number of white *gorges*, or pitchers, but vessels and ornaments in transparent porcelain, for which he obtained a patent. The manufactory was afterwards carried on by a Mr. White, one of his descendants.

Whilst this progress had been made in the manufacture of common pottery the porcelain of China had been gradually introduced. The celebrated traveller, Cavendish, presented Queen Elizabeth with some of the first vessels of Oriental porcelain which came into this country. In 1588 her Majesty received from the Lord Treasurer Burghley "one porrynger of white porselyn;" and from Mr. Robert Cecil, "a cup of grene pursselyne," as new-year's gifts. In 1685 Evelyn adverts to saucers, &c., of "porcelan" as in much esteem by fashionable ladies. The increasing import of tea, first introduced in the reign of Charles II., and the establishment of public coffee-houses, were accompanied by so many specimens of porcelain, that in the reign of Queen Anne (1702–1714) the collection and use of that costly material became a fashionable mania. Addison ridicules the passion with the happiest effect in the "Spectator," and as Pope observes,—

> "From silver spouts the grateful liquors glide,
> While China's earth receives the smoking tide."

As this exquisite but fragile fabric continued to increase in estimation, so the ingenuity of English manufacturers led them to attempt its imitation. Early in the eighteenth century, the abortive efforts of Mr. Dwight at Fulham were renewed simultaneously, and with much better success, at Chelsea and at Bow. The ware from those manufactories was composed of Dorsetshire or Devonshire clay, and a fine white sand from Alum Bay, in the Isle of Wight; to which such a proportion of pounded glass was added, as, without

* The tiles by Minton, the iron work by Hardman.

causing the ware to soften so as to lose its form, would give it, when exposed to a full red heat, a semi-transparency, resembling that of the fine porcelain china. Before the year 1698, some such manufacture had existed at Chelsea; though the objects produced were, perhaps, only a kind of opaque glass. That they had increased in importance before 1745 may be inferred from the fact that the promoters of the Royal Porcelain Works of France sought in that year for exclusive privileges, to enable them to compete with English and German fabrics; and in 1778 the porcelain of Chelsea is especially eulogised by Macquer. Mr. Marryatt states in addition that the early Chelsea specimens resemble those of St. Cloud, in the flowing lines and ornaments of the style of Louis XIV. In the reign of George II. the establishment at Chelsea profited by royal patronage, and attained its greatest excellence from the year 1750 to 1765, under the directorship of an artist named Spremont. A set of china was produced in 1763 for the Duke of Mecklenberg, which, according to Walpole, cost no less than 1200*l.* After the retirement of Spremont the manufactory declined, and the workmen and models were subsequently transferred to Derby.

The porcelain of Bow was mostly confined to tea and dessert sets, and is distinguished by the figure of a bee, embossed or painted on one of the pieces. It was ornamented with quaint devices, flowers, and landscapes, generally in bistre on a plain ground. The works were abandoned about 1720.

The Derby china-works were first established by a manufacturer named Dewsbury, in 1750; and were much promoted by the accession of the artists, workmen, and models from Chelsea. The porcelain of this establishment is "very transparent, of fine quality, and characterised by a beautiful bright blue on the border or edge of the tea-services. The figures are not equal to those of the Chelsea works, but the white biscuit figures peculiar to this fabric rival in beauty and elegance those of Sèvres."

The "Worcester Porcelain Company" was established in 1751, by Dr. Wall, a physician of that city. He appears to have originated the idea of printing upon porcelain, which he carried out with some success. The Museum of Practical Geology contains a mug, presented to the collection by Mr. Albert Way, with portraits of English worthies printed upon it at Worcester; and the same gentleman possesses another interesting specimen, with a portrait of Frederick the Great in armour, printed in black, with remarkable distinctness and precision. The most memorable event in the history of the works at Worcester is the manufacture of hard paste porcelain there by Mr. Cooksworthy, in the year 1768; when that gentleman had discovered the kaolin, or china clay, of Cornwall. His productions in that material are scarce and valuable, as the manufacture was soon abandoned. In 1783 the Worcester works were transferred to Mr. Flight, and have since been carried on by Messrs. Flight and Barr.

At Stepney, near London, and at Coalport in Shropshire, other porcelain works were for a time carried on during the last century, but their productions were not such as to call for notice in our limited space.

Whilst these partially successful efforts in porcelain were being made, the general demand for ordinary earthenware was steadily increasing; and in Staffordshire, where potteries on a small scale had long existed, the trade extended itself in a very extraordinary degree. Aided by the tasteful and scientific exertions of Josiah Wedgwood and his imitators, it has since become the chief source of supply to all the world: but it is necessary to defer to a future article a brief notice of the steps by which this result has been attained.

Although we shall again advert to the productions of Messrs. Minton and Co., we may here append a few general particulars of their establishment, with which we have been kindly favoured. Mr. Thomas Minton, who founded the business about sixty years ago, devoted his attention chiefly to the production of good earthenware; but, being practically acquainted with the art of engraving, he introduced many improvements in the execution of the patterns for printing. He was the first to discountenance the use of oxide of lead for the glazing of earthenware, a material which had produced paralysis and other maladies in many of the workmen using it. This evil he obviated by the extensive substitution of borax. Since Mr. Herbert Minton has become the principal member of the firm, most of the artistic appliances which we have illustrated in the present work have been brought to bear; and the operations of the manufactory have been so far extended, as to afford constant employment to more than 1000 workpeople. In conjunction with Dr. Turner, Mr. Minton took out a patent in 1839 for the production of hard porcelain; but after a series of costly experiments, he abandoned the manufacture till 1849, when he again pursued it, with the assistance of M. Léon Arnoux, a talented French manufacturer. Although unable to surmount some of the technical difficulties of the process, Mr. Minton exhibited, in 1851, a number of chemical vessels, which were pronounced by competent judges as superior to the Berlin and Meissen wares in the same material. Hard porcelain is now imported into England to the value of 60,000*l.* annually; but, stimulated by the success of Wedgwood, Mr. Minton encourages the hope that, at no distant day, England may become an exporting country even in this beautiful material.

H. MAYE, DEL.

M. DIGBY WYATT DIREX.

F. BEDFORD, LITH.

TERRA COTTA FIGURE OF GALATEA & GROUP OF MAJOLICA GARDEN VASES
BY MINTON OF STOKE-UPON-TRENT

LONDON PRINTED & PUBLISHED SEPR 15TH 1852 BY DAY & SON LITHOGRAPHERS TO THE QUEEN

PLATE XCVIII.

SILVERSMITHS' WORK,

BY GOUGH OF BIRMINGHAM.

Birmingham has long been celebrated, though in a less degree than Sheffield, for works in Britannia metal, German silver, albata, and other materials, imitating, and in appearance nearly resembling, silver. The latter metal is also extensively used in the local manufacture of pencil-cases, thimbles, and other small articles, as well as in plating spoons, forks, salvers, &c., of copper and white metal. For the latter purpose, 15,000 ounces of silver were used in Birmingham in the year 1846. In the establishments of Messrs. Collis, Elkington and Co., Hardman, Gough, and some others, silver plate is constantly produced. There are in all more than fifty silversmiths in the town; and the total quantity of silver annually used in different branches of art and manufacture exceeds 150,000 ounces; one manufacturer having melted 34,000 oz. for his own consumption, in trinkets, &c., in one year.

That Mr. Gough is well qualified to do justice to the beauty of the precious metals, both in reference to design and execution, is sufficiently testified by the objects we now engrave. Engaged also in the electro-plate manufacture, that gentleman employs upwards of seventy skilled artizans, himself designing and modelling, with much taste and feeling for the proprieties of his art, most of the objects produced in his establishment.

As we shall again have occasion to advert to the manufactures of Birmingham, we propose in the present and future articles to give a brief *résumé* of the early history and commercial progress of the town, together with a few descriptive illustrations of its most important and characteristic productions.*

The quaint and sagacious historian of the place, William Hutton, unable to trace by any authentic record the existence of the present trade of the locality prior to the sixteenth century, indulges in an amusing series of conjectures: surmising that even the aboriginal inhabitants of Britain may have defended themselves against the Roman conquerors with the aid of weapons forged at Birmingham. It is true that the neighbouring iron mines of Staffordshire were worked at a very early period, and that the local and geological characteristics of its site peculiarly adapted Birmingham for smelting the ore; but even the enthusiasm and ingenuity of Hutton must fail to establish all his suppositions, in the absence of written testimony, either in our copious national records or other sources. All we know is that the place described as "Bermengeham" in the "Domesday Survey," is not at all specially distinguished in that venerable compilation; that, from the time of the Heptarchy to the reign of Henry VIII., the manor belonged to the family of De Bermingham; that the privilege of a weekly market was conferred upon the town before the Norman Conquest; and that, as early as the twelfth century, it had acquired some celebrity in the tanning of leather, a trade for which it continued subsequently famous, though it has now been long extinct as characteristic of the place.

Perhaps the first indication of the practice of metal-work is that afforded by the accounts of the church-wardens of Birmingham for the year 1498, containing as they do the entry of a payment "for repeyling (repairing) the organs, *to the organ-maker at Bromicham;*" an orthography, by the bye, which partially prevailed, and even governed the popular pronunciation, till the beginning of the last century.

* In doing so we shall avail ourselves of a carefully-written notice of the subject in the second volume of the "Journal of Design."

Leland, who, by express commission from Henry VIII., travelled over the greater part of England between the years 1533 and 1540, has left us an interesting notice of Birmingham as he then found it. "I came," he says, "through a pretty street or ever I entred into Bermingham towne. This street, as I remember, is called Dirtey [Deritend]; in it dwell smithes and cutlers." And again: "The beauty of Bermigham, a good markett-towne in the extreame partes of Warwickshire, is one street, goeing up alonge almost from the left ripe of the brooke, up a mean hill, by the length of a quarter of a mile. I saw but one paroch-church in the towne. *There be many smithes in the towne* that use to make knives and all mannour of cutting tooles, and many loriners that make bittes, and a great many naylors; soe that a great part of the towne is maintained by smithes, whoe have theire iron and sea-cole out of Staffordshire."*

Camden describes "Bremicham" as "full of inhabitants, and echoing with forges;" and adds that "most of the inhabitants be smiths;"† so that the existence of even an extensive local manufacture as early as the sixteenth century is unquestionable.

In the Civil Wars we find that the townsmen supported the Parliamentary cause, and made swords for the army. Hence they incurred the vengeance of Prince Rupert, who set fire to and destroyed a great part of the town. The scanty population of the "three streets" of Birmingham was almost destroyed by the Great Plague of 1665, and these calamities must have sadly retarded its prosperity. On the restoration of Charles II. the luxurious frivolities of French taste were introduced, and the "brass toy trade," in which the town has ever since been unsurpassed, was established for the production of glittering trifles in the shape of pouncets, pomanders, tags, étui-cases, snuff-boxes, and other appurtenances of personal vanity.

From that time to the present the trade of Birmingham has steadily increased. William III. was perhaps its greatest benefactor, in introducing two important, though widely different articles of production, namely, guns and buckles. Lamenting the necessity of procuring the former from Holland, his Majesty was induced, by a patriotic representative of Warwickshire (Sir Richard Newdegate), to give to a Birmingham manufacturer a commission which laid the foundation of the local gun-trade. "The Revolution," says Hutton, "was remarkable for the introduction of William, of liberty, and of the minute buckle, not differing much in size and shape from the horse-bean. This offspring of fancy, like the clouds, is ever changing: the fashion of to-day is thrown into the casting-pot to-morrow. The buckle seems to have undergone every figure, size, and shape of geometrical invention; it has passed through every form in the whole zodiac of Euclid. The large square buckle is the *ton* of the present day. The ladies also have adopted the reigning taste: it is difficult to discover their beautiful white feet covered with an enormous shield of buckle, and we wonder to see the active motion under the massive load. Thus the British fair support the manufacturers of Birmingham, and thus they kill by weight of metal."

Bishop Gibson, in his additions to Camden, in 1722, mentions, besides the "smiths" noticed by the latter, "other artificers in iron and steel, whose performances are greatly admired both at home and abroad."

About the time when Hutton published his history (1781), it was the custom to address letters to "Birmingham, near Walsall;" and although the trade had given ample promise of future consequence, even he, sanguine as he was in his predictions, could not have anticipated its present greatness. Much of this is due to the general progress of the country, to improved means of transit, and other similar causes; but we must not overlook the efforts of such men as Boulton, Watt, John Taylor, Baskerville, Eginton, Murdock, Hardman, sen., Thomason, Priestley, and many more—the local aristocracy of talent at the close of the last century, who have been well seconded by the manufacturers of our own days.

As an index of the progress made in the manufacturing importance of Birmingham since the days we have last referred to, no better test can be found than the progressive increase of its population. In 1781 this was estimated at about 25,000; in 1831 the number had increased to 120,000; in 1841 to 182,894; and at the last census, 1851, to 232,634.

* Leland's "Itinerary," by Hearne, 8vo. vol. iv. part ii. p. 186 b.

† "Britannia," 1st ed. 1586.

H MAYE, DEL.

M. DIGBY WYATT, DIREXT

F MORAS LITH

SILVERSMITHS WORK BY COUCH OF BIRMINGHAM

LONDON PRINTED AND PUBLISHED SEPR 15TH 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE XCIX.

HOT-AIR STOVE,

DESIGNED BY ALFRED STEVENS, FOR HOOLE, ROBSON, AND HOOLE, OF SHEFFIELD.

Amongst the manufacturers who have contributed to the reputation, which Sheffield has so deservedly attained in the successful application of iron and steel-work to domestic purposes, few have laboured with better effect than Messrs. Hoole, Robson, and Hoole, from whose establishment the beautiful object which we now engrave has emanated. The productions of Messrs. Hoole and Co. in the Great Exhibition were characterised by a happy union of tasteful design and skilful execution, which received its due acknowledgment in the award of the Council Medal. In the preparation of this elegant stove, as well as in other works, those gentlemen have evinced much judgment by securing the valuable aid of Mr. Alfred Stevens, who in the present design has exhibited a refined appreciation of the highest class of Italian art of the Cinque-cento period. By modelling a large proportion of the ornaments himself, he has shown how admirable a result may be obtained when the talents of the designer and the practical modeller are combined in the same person.

In approaching the manufactures of Sheffield, a wide field of historical and scientific observation is opened to our view; and we propose in this and future articles to advert briefly to some points which it may appear desirable to notice in the present work.

The general and political history of the town would furnish matter for much interesting comment; but our observations must be limited to the rise and progress of its commercial and manufacturing celebrity. Situated in a valley surrounded nearly on all sides by hills, between which run rapid streams, and in a neighbourhood abounding with stone, iron-ore, and coal, Sheffield has always possessed culiar natural facilities for the trade which has rendered it so famous. Its artisans are supposed to have made the bills and arrow-heads, which, in the days of our mediæval ancestors, were the pride of the English army; and cutlery, the perfection of which is still the greatest boast of Sheffield, was a distinguishing product of the town as early as the fourteenth century. Chaucer's well-known description of one of his "merrie train," informs us that

> "*A Shefeld thwytle* bare he in his hose,
> Ronde was his face, and camysed was his nose."

About the time of Edward VI., the oppressions of the Duke of Alva had caused many skilful artisans to quit the Netherlands and seek refuge in England, where they met with a favourable reception. The Earl of Shrewsbury, Lord of the Manor of Sheffield, was Chamberlain to Queen Elizabeth, and is supposed to have so exercised his courtly influence as to have led to the settlement upon his own estate of such of these emigrants as were workers in iron and steel, and therefore competent to promote its rising trade. Shears, scissors, sickles, scythes, and knives of every kind, continued to be made at Sheffield; but until early in the seventeenth century the place was by no means in a prosperous condition. By a survey taken in the year 1613, it appears that it then contained 2207 inhabitants: of whom the most wealthy are described as "100 householders which relieve others, but are poor artificers; not one of whom can keep a team on his own land, and not above ten who have grounds of their own which will keep a cow." A very few years later, however (in 1624), an Act of Parliament was passed "for the good order and government of the makers of knives, sickles, shears, scissors, and other cutlery wares, in Hallamshire and parts near adjoining it;" under the provisions of which the principal cutlers of Sheffield were incorporated for the protection of the trade, and especially to guard against the piracy of the marks assumed by individuals.

Still the trade made but slow progress, and it was not until the following century that it attained anything like its present importance. The manufacturers were men of small means: they were without water-conveyance to either Hull or Liverpool; pack-horses were the usual means of transit for their heavy goods, and the export trade, which has since grown up, was altogether unknown amongst them. Social and mechanical improvements, however, with increased intelligence and energy in the manufacturers, gradually extended the staple productions of the town; and in 1742 a fresh element was introduced, in the discovery, by Thomas Bolsover, an ingenious local mechanic, of the method of producing "plated" articles, by incorporating a thin plate of silver with the surface of an ingot of copper (or copper and brass), and then rolling the mass into a sheet, from which any description of goods might be formed, as in sheet-silver. The admirable and economical imitations of silver vessels thus produced soon acquired immense popularity; and the invention was extensively carried out by Joseph Hancock, a Sheffield manufacturer, who attained considerable eminence. To Mr. Hancock and Mr. Jessop we may also mainly ascribe the introduction of what is known as Prince's, or more commonly Britannia metal (called by the workmen, white metal). The extreme cheapness, lightness, ductility, and beauty of effect of this substance, at once brought it into general estimation; and it is now used to an enormous extent in the formation of tea-pots, coffee-pots, candlesticks, spoons, salvers, &c. From the nature of the metal, many articles may be produced in it by stamping; and the stamps employed may be made of cast-iron, or even brass, whereas costly engraved steel dies are necessary for stamping brass or plated goods. Into these and some other technical details, both of the steel and plate trade, we hope to enter hereafter, and we must close our present notice with a bare allusion to some of the numerous improvements subsequently introduced. The employment of "solid silver edges," as they are termed, for the more prominent portions of plated goods, obviated the objections to which the metal itself was liable, from its weakness in such situations, and from the silver surface being gradually rubbed off; and in the year 1831 a further improvement was introduced by Mr. Roberts of Sheffield, who, by a patent process, interposed a layer of white copper, or German silver, between the inferior metal and the silver; thereby adding much to the permanent beauty of plated goods. In the more substantial manufactures of the locality, the greatest triumph was achieved in 1786, by William Dunn, who first applied steam-power to the large grinding mills, in which one of the most important operations in cutlery is performed. Steam has since been applied to many of the preliminary processes of converting iron into steel; though the streams which first contributed to promote the trade of the district are still largely employed in working its machinery. The population of Sheffield has increased from less than 46,000 in 1801, to about 130,000 at the date of the last census.

We may here advert to the interesting fact, that, from the earliest periods till a comparatively recent date, the principal supply of British iron was derived from the southern part of England, and not, as now, from Staffordshire and the north. Mr. M. A. Lower* has given a copious account of the extinct iron-works of Sussex, referring to the sites of nearly one hundred different smelting-furnaces and forges. Innumerable fields of iron scoriæ still mark these localities; and, from the large number of Roman coins and fragments of pottery found in these cinder-beds, Mr. Lower infers that the works were carried on from the reign of Vespasian, or his successor Titus, to that of Diocletian. Although inactive for some centuries afterwards, the works were subsequently resumed. "Henry of Lewes" executed the iron-work on the tomb of Henry III. In the reign of that king the town of Lewes was allowed to take a toll from all carts laden with iron from the Weald of Sussex, and there are many curious records of the local iron-trade in subsequent reigns. The mansions and churches of the county abound with andirons, ornamental chimney-backs, and monumental slabs of iron, dating from the fifteenth to the end of the seventeenth century. There are no less than thirty iron monuments in the church of Wadhurst alone. Cannons made of iron-staves, hooped and banded together, are supposed to have been made in Sussex in the fourteenth century; and Holinshed records, that the first cast-iron cannons were also produced in the same county in 1543. The cast-iron railings of St. Paul's Cathedral were the produce of Lamberhurst in Sussex.

The fuel employed in this district for smelting the ore was derived from the extensive forests of the Weald (the Coit Andred of the Britons). In the reigns of Henry VIII. and Elizabeth, legislative restrictions were imposed on the destruction of the forest-timber from this cause, and the erection of new iron-works was prohibited. Eventually, about a century ago, the scarcity and cost of fuel led to the extinction of the Sussex iron-works.

* In the "Sussex Archæological Collections," published by the Sussex Archæol. Assoc. 8vo. vol. ii. p. 169; vol. iii. p. 240.

A. STEVENS, DEL. M. DIGBY WYATT, DIREXT. F. BEDFORD, LITH.

STOVE, DESIGNED BY A. STEVENS FOR ROBSON & HOOLE OF SHEFFIELD.

PRINTED & PUBLISHED SEPR. 15TH 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE C.

PAPER-HANGINGS,

BY MADER, FRÈRES, OF PARIS.

Of the origin of the art of paper-hanging in France—that country in which it has attained so great a celebrity—there exist but uncertain indications; there is, of course the usual competition between England and France as to priority of invention, but, so far as actual authority is concerned, we cannot learn that the foreign manufacture exhibited any material developement previously to the end of the seventeenth century.

M. Savory* speaks of a sort of flock-hangings called "tontures de laine;" these were manufactured at Rouen, and their purpose seems to have been to supply the place of tapestries. Patterns in flock of various colours, in imitation of the figures on the tapestries, were printed on these tontures de laine, which served for a ground, though of a very coarse texture. "The artist," observes M. Savory, "having prepared his design, drew on the cloth, with a fat oil or varnish, the subject intended to be represented, and then the flocker, from a tray containing the different tints of flocks, arranged in divisions, took the colours he required, and sprinkled them in a peculiar manner with his finger and thumb, so that the various shades and colours were properly blended, and an imitation of the woven tapestry produced."

Printing by blocks is not mentioned in this passage, but wooden blocks and patterns are still preserved in France, bearing the date of 1620 and 1630.

A French name occurs as follows, in a book of travels of one Mr. Heinecken,† (mentioned by Beckmann in his "History of Inventions,") who writes, "Before I leave the Hague, I must not omit to mention M. Eccard's particular invention for making paper-hangings. He prints some which appear as if worked through with gold and silver; they are fabricated with taste, and are not dear." There really, however, seems to be but little information on the subject previous to the end of the last century. For the following, which gives some explanation of the subject, we are indebted to the Report of M. Zuber of Rixheim‡:—"Towards the end of the last century, about 1780, the manufacture of paper-hangings passed from England into France. The manufacturers who first established themselves were Arthur and Robert; Reveillon followed them. It was in the pillage of the factory of the latter, situated in the Fauxbourg St. Antoine, that the Revolution of 1789 commenced. The third was named Legrand. All these manufacturers opened their establishments in Paris. In 1790 the house of Zuber commenced business at Muhlhausen, and a little later, Joseph Dufour opened a factory at Mâcon, but after a time removed to Paris; subsequently, several considerable factories were established at Lyons: but Paris shortly became the centre of this branch of French industry, and has since maintained this position up to our day, following in this the example of London, which in a few years concentrated within itself the whole of this important manufacture of England. Germany commenced the fabrication of paper-hangings after France, but upon a very limited scale; then followed Switzerland, Holland, and Belgium, on a scale still smaller; Vienna, in Austria, and later Warsaw, witnessed the establishment of factories on elements taken from our house. Russia had its imperial factory at Szarko Szelo, which consumed

* "Dictionnaire de Commerce."

† "Nachrichten von Künstlern und Künstsachen." Leipsig, 1768.

‡ "Report upon the Manufacture of Paper-hangings, read before the Industrial Society of Muhlhausen at the sitting of the 27th of August, 1851, by M. Jean Zuber, fils, formerly President of the Society."

millions of francs without result; and in Spain a factory was established at Madrid by a Frenchman, of the name of Giroud de Villette."

The practice of hand-printing remained in force for a long period in France; however, in 1829 the first machine for producing an endless line by means of stencil-plates and a revolving brush, was introduced into Paris, through the house of Dauptain, fils, et Leur, by the late Mr. Clarke of High Holborn.* The introduction of this system produced a strike amongst the workmen, and so much were they enraged, that the Government were obliged to send soldiers to protect the establishment. Dauptain became frightened, and gave it up. The same fear pervaded the other Parisian manufacturers, and it was abandoned till 1831, when the Messrs. Zuber established a machine with great success, fabricating by means of it pieces in one length of thirty feet long, and had succeeded so well in the blending of colours and production of artistic effects as to produce, at the Exposition of Paris of 1834, a large landscape, for the beauty of which they were rewarded with the gold medal; an honour which was confirmed in 1839, 1844, and 1849.

The perfection now exhibited in their paper-hangings shows to what an extent the French manufacturers have advanced this art, and many are the improvements for which it is indebted to them. Amongst these we may enumerate the embossed and shaded flocks, improvements in satin grounds, imitation of chintzes, and the introduction of printing from engraved cylinders.

Amongst the houses which have become eminent is that of Mader, frères, from which have emanated the beautiful specimens we now engrave. This establishment, founded by the late M. Mader, a gentleman of much reputation in the history of paper-staining, was, after his death, carried on by his widow and eldest son, and is now known as the house of Mader, frères. On reference to the lists of the awards of the Expositions of French industry, from that of 1827 to that of 1849, we find them, on each occasion, supporting the reputation previously gained; and these honours have received their confirmation by the award of a Prize medal at the Great Exhibition of London of 1851.

We extract from the valuable Report of M. Zuber, already quoted, the following interesting commercial notice of the French and English manufacture:—

"In England, up to 1825, the manufacture of paper-hangings was protected by the absolute prohibition of foreign papers, but at the same time it was subjected to a tax so onerously applied, that, before the adoption of continuous paper, each piece composed of twenty-four sheets received on its back twenty-four stamps, with two more to mark the two ends; this duty amounted to about 1*s.* 4*d.* per piece. In 1825 Mr. Huskisson removed the prohibition, and replaced it by a duty on foreign products of one shilling per yard square, which, taking a piece of French measurement, amounted to the enormous sum of about seven francs per piece. My curiosity, nevertheless, led me to make an excursion to England, for the purpose of seeing if it were possible to import at this rate of duty, and to my astonishment I found I was able to enter into considerable transactions. 'You beat us completely,' was what I continually heard from the English dealers on showing our products. This state of things continued till 1834. Our importations at last pushed the English manufacturers into the improvement of their work, and at this latter date the English government reduced the customs duty to one half, and took off at the same time the stamp-duty on English-made paper-hangings. Our business was not in any way augmented, but the English manufacture made such progress that in 1846 Sir Robert Peel made a new reduction of the import duty by two-thirds; that is to say, reduced it to two-pence a-yard, or about one franc per piece. A violent shock to the English manufacture followed, but a salutary effect was quickly produced on it. During the first year of the new regulations our importations doubled themselves; they, however, soon fell off again, but not before this heavy competition had impelled the English manufacturers to such exertions, that now, with a duty one-sixth of that of 1825, we find a difficulty in introducing merchandise to the same amount as then."

* We have to acknowledge much valuable information obtained from this gentleman, than whom no one showed more real interest in the advancement of the manufacture of paper-hangings, or more skill in applying to it the principles of science and art.

PLATE CI.

DAGGERS AND SHEATHS,

DESIGNED BY ALFRED STEVENS, AND EXECUTED BY G. WOSTENHOLM OF SHEFFIELD.

We should be exceedingly unjust did we not award great praise, both to the artistic and manipulative skill displayed in the three daggers and their sheaths represented in our Plate. The *motif* of the design is the Cinque-cento style, which is carried out in a very able manner through the ability of Mr. Alfred Stevens, whose long studies in Italy, under the best professors of art in that country, have qualified him in a peculiar manner for the task. The only exception which we should take would be to the scabbard of the second example; the ornamentation of which reminds us rather of the classic age of Severus than of the sixteenth century. Should the manufacture continue in the same path of improvement, the time may arrive when the productions of Sheffield and Birmingham will be ranged in the European museums by the side of the works of Cellini, Negroli, and Carradosso.

The practice of ornamenting armour and arms is almost coeval with their invention, and, without detaining the reader with accounts of the golden shields of Solomon or the mythic shield of Achilles, the breastplate of Agamemnon or the sword of Ajax, we will briefly mention one or two examples of Roman work which are still preserved. Among them is a very beautiful helmet, covered with empæstic work, found at Ribchester, and engraved in Vol. IV. of the "Vetusta Monumenta." Another, nearly similar, was found at Pompeii, together with some greaves, very beautifully ornamented. The shoulder-guards now in the British Museum, and commonly said to have belonged to Pyrrhus, although not of Roman manufacture, are among the finest specimens we possess of the art of the classic ages. We must not omit the sword ascribed to the Emperor Tiberius, found near Mayence, now in Mr. Farrer's possession, the sheath of which is of bronze, ornamented with figures, foliage, architecture, &c., many parts being decorated with small pieces of gold. This was exhibited at the last meeting of the Archæological Institute. Several other specimens of enriched antique armour might be instanced, but we must content ourselves with the testimony of Pliny as to the extent of the practice in his time:—"Cum capuli* militum, ebore etiam fastidito, cœlentur argento, vaginæ batillis, balthei laminis crepitant," &c. &c. Julius Cæsar is said to have encouraged his soldiers to ornament their arms, with the view to give them a greater inducement to keep them from being taken by the enemy.

During the dark ages we meet with scarcely any notices respecting the subject of our inquiry; doubtless the possession of beautiful arms must have been a desirable object to men whose occupation was frequently nothing but war. The workmen of that time, however, had but little skill; and it is not unlikely that many a *chef-d'œuvre* of empæstic and toreutic art was often seen in strange juxtaposition with the ruder productions of the Lombardic or Gallic armourer.

The first object of that period we are enabled to identify is the celebrated sword of Charlemagne, now at Vienna. The scabbard is remarkable for the insertion of several pieces of cloisonné enamel, upon a ground set with pearls. It is still an undecided question whether Rome or Byzantium has the honour of this work, but

* Capulus, a hilt.

from various circumstances it is very probable that it was executed by Greek artists resident at the former city. Not much later we find King Alfred presenting a "seax," or falchion (the national sword of the Anglo-Saxons) in a golden sheath, and a baldric studded with gems, to his grandson Athelstane, on the occasion of his being made a knight.

As far as we are able to judge by existing documents (such, for instance, as the Bayeux tapestry and illuminated MSS.), the arms and armour of the tenth, eleventh, and twelfth centuries, were almost entirely devoid of ornament: it is, however, probable that in some cases the helmet and coat of mail were gilt, and the sword-scabbard enriched with embroidery. We must, therefore, wait for any indications of ornament until the succeeding century, the epoch of the gradual introduction of plate armour.

During the whole of the middle ages the handles of the swords and daggers were, for the most part, but little ornamented. We do, indeed, find that the round pommel of the thirteenth century had occasionally the coat of arms of the owner inserted in enamel, but more generally it appears to have been plain. The handle itself was either bound round with wire, and sometimes with silk, or, if in metal, consisted of a few longitudinal or twisted mouldings, to give the hand a firmer hold. The whole of the decoration was reserved for the sheath, which was generally covered with some rich velvet, and strengthened by metal guards. These latter were worked into the most elegant shapes; and an inspection of Stothard's and Hollis's Monumental Effigies will give an excellent idea of the care and skill bestowed upon this part of the knight's equipment.

A sword, incorrectly ascribed to Hugh Lupus, the first Earl of Chester, is preserved in the British Museum. The handle is enriched with pieces of mother-of-pearl, and the pommel presents some very fine chasing or repoussage: it is impossible to tell which. Another sword in the same collection has several coats of arms enamelled on the handle; and the sword of state of the Archbishop of Cologne has a magnificent scabbard of silver filigree work, and is, besides, enriched with several jewels.

The small dagger worn by all classes during the middle ages, and which, when carried by the civilian, was called the "anlace," and when forming part of the military equipment had the appropriate name of the "misericorde," received quite as much ornament as the sword; indeed, the one is but often a reduced copy of the other. We often read of these anlaces, &c., being set with stones and otherwise decorated; but there is very little evidence that the hilts or scabbards were fashioned into figures of men or animals, as in later times.

Previous to the introduction of damascening, the principal decorations of weapons consisted of engraving, parcel-gilding, and raised work, which was produced by sinking the ground and leaving the ornament slightly in relief. All these processes may be studied in the armouries of the Tower of London and Goodrich Court, the Musée d'Artillerie at Paris, and the Armeria Real at Madrid. The latter contains many of the *chefs-d'œuvre* of Negroli, of Milan, and of Andrea di Ferrara,* both of whom appear to have been Italians, or at least to claim an Italian origin. The name of the latter is of European celebrity, for the excellent temper he contrived to give the blades of the weapons which bear his name.

In the sixteenth and seventeenth centuries, when the dagger formed part of the ordinary costume of every gentleman, great pains were taken with its ornamentation, and the services of the best artists and goldsmiths were eagerly secured for the purpose. To enumerate the names of those who were engaged upon this branch of the art, would be to give a list of the most distinguished goldsmiths of the period. We must content ourselves with mentioning the great Albert Durer, who engraved a partisan published by M. Planché in the "Pictorial History of England;" and Benvenuto Cellini, who, according to his own account, was the first to apply damascening to the blades of swords and daggers. At the present day, when the system of the division of labour obtains to so great a degree, the artist and manufacturer have become separated, and it only remains for the latter to secure the best artistic talent he can obtain; it is for this reason that we congratulate Mr. Wostenholm in having Mr. Stevens as his coadjutor.

* It is exceedingly doubtful whether it was Andrea himself or a namesake who was invited to Scotland by James IV. or V. to teach the Scots the art of tempering sword-blades.

A. STEVENS. DEL.

M. DIGBY WYATT. DIREXT.

F. BEDFORD, LITH.

DAGGERS & SHEATHS DESIGNED BY A. STEVENS FOR WESTENHOLZ OF SHEFFIELD.

LONDON PRINTED AND PUBLISHED OCTR 1ST 1852 BY DAY & SON LITHOGRAPHERS TO THE QUEEN.

PLATE CII.

MACHINE-MADE LACE,

BY BIRKIN OF NOTTINGHAM.

In a former article on the subject of Nottingham lace (Plate XXX.), we limited our observations to that variety of the local manufacture in which a pattern was "run" by hand, after the groundwork was made by the bobbin-net machine. In the excellent specimen we now engrave, both the ground and the pattern have been entirely produced by the machine; and we shall endeavour to narrate a few particulars of the rise and progress of the Nottingham lace trade, the different machines employed, and the variety of goods produced by them. Interesting and important as the subject is, it is, however, so copious and intricate, that we can give only a very slight sketch, referring our readers for further information to an elaborate article by Professor Barlow in the "Encyclopædia Metropolitana," to an equally careful notice of the subject in M'Culloch's "Dictionary of Commerce," and to the Jury Reports on the late Great Exhibition.

The first successful attempt to construct a machine for making fabrics in imitation of pillow-lace was made at Nottingham about the year 1768, by a stocking-frame-work knitter, named Hammond; and his invention was a modification of the stocking-frame. A machine, called a pin-machine, was introduced at Nottingham, about the same time, by Else and Harvey of London; and, although now disused in this country, it is still employed in France for making *tulle*. The warp-frame (also a variety of the stocking-frame) is largely employed for warp-lace, and dates from 1782, by which period the manufacture of plain lace by imperfect machinery had steadily increased.

The great improvement, however, which gave to this new branch of industry its most extraordinary impulse, was that introduced by Mr. John Heathcoat, who, in the year 1809, obtained a patent for the machine known as the "bobbin-frame," from which the fabric it produces has received the name of "bobbin-net." Several previous attempts had been made by others to construct such a machine, but without success. Mr. Heathcoat worked his patent extensively, with very profitable results; and he progressively effected several improvements in the machine. On the expiration of his patent in 1823 the Nottingham manufacturers, who had applied steam power (in 1816) to their less perfect machines, evinced the utmost eagerness to adopt the "bobbin-frame." This important invention, in fact, immediately superseded the pillow-lace trade, its enormous power of production rendering all competition with it hopeless.* The desire to possess bobbin-frames was not confined to the manufacturers: a perfect mania seized all persons who could raise a small capital. Butchers, bakers, farmers, and even clergymen, invested their means in purchasing these machines; and large sums were paid for instruction in the mode of working them. The popularity of the machine-made lace, and the profits for a time realised by its manufacture, justified the excitement which prevailed. Prices, however, fell as the manufacture increased, but the demand appeared unlimited; and the productions of the Nottingham lace-frame soon rivalled and supplanted the best plain nets of the Continent. The conclusion was not difficult to be foreseen: the immense supply of bobbin-net soon reduced the profits, and rendered the machines less valuable; and, though some of the earliest producers realised large sums, multitudes were disappointed, and many ruined.

The energy of various manufacturers in the improvement of the lace-frame nevertheless maintained and

* It has been calculated that, as compared with hand labour, the productive powers of the bobbin-net machine are now nearly as 600 to 1; and even in its earliest state the disproportion must have been very great.

increased the trade of Nottingham; and amongst these improvements none have been more important than the application of the Jacquard apparatus to the bobbin-net machine, so as to produce the most elaborate patterns with unerring accuracy and perfection. This has been effected since 1839, under the patents of Messrs. Vickers, Fisher, Crofts, Heathcoat, Birkin, and others; and machine-lace has been produced, bearing so close a resemblance to the most elaborate foreign grounds—Valenciennes, Mechlin, and Brussels—as to deceive even a practised eye. It would be almost impossible to enumerate the various improvements introduced by different local manufacturers: within the last fifty years hundreds of patents have been taken out; and every season still produces novelties, as various as the fluctuations of taste and fashion. It is gratifying to add that the School of Design established in the town is acknowledged by the best manufacturers to have had already a most beneficial influence.

As illustrating the effect of scientific improvements in reducing the price of the manufacture, we may observe that the kind of lace which was sold by Mr. Heathcoat for five guineas a-yard, soon after the date of his patent, can now be equalled at eighteen pence a-yard; that quillings which sold in 1810 for four shillings and sixpence, can now be excelled for three-halfpence a-yard, and that a certain width of net which realised seventeen pounds per piece twenty years ago is now sold for seven shillings.

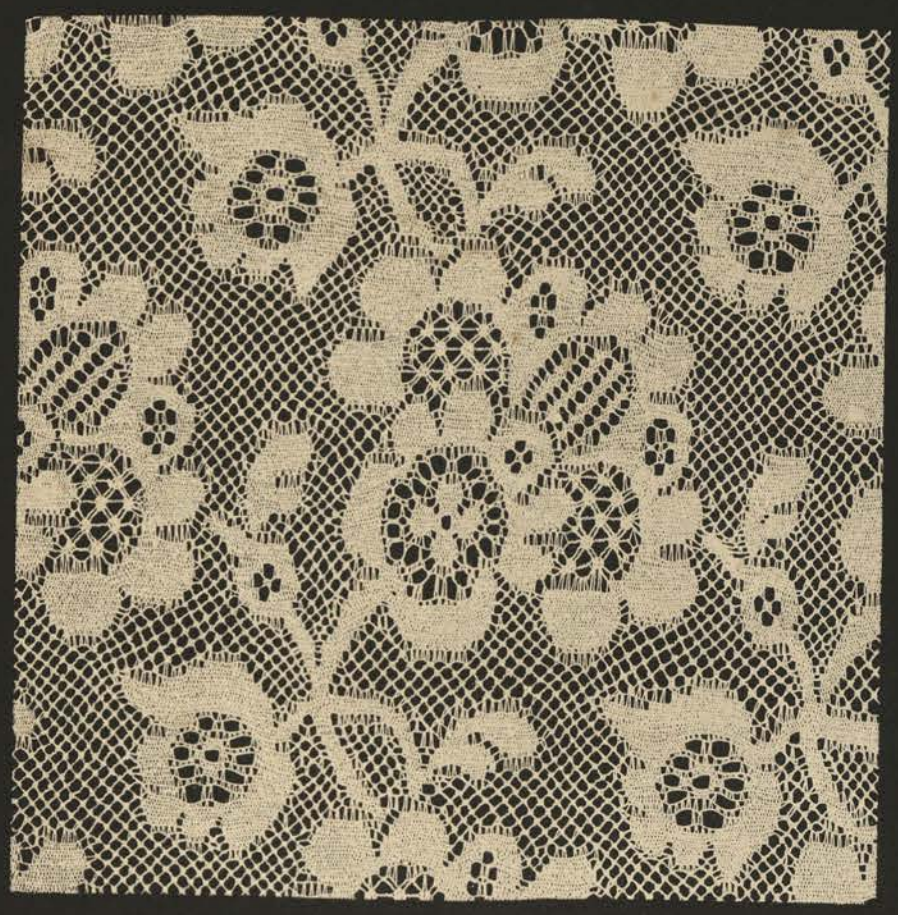
In some information which he has kindly given us, Mr. Birkin describes, as follows, the different kinds of machines now in use:—1. The "Leavers" machine, so called after John Leavers, its inventor, applied to the production of black-silk piece net, trimming laces, blondes in white and colours, cotton edgings, linen laces in imitation of white pillow lace, muslin edgings, fancy piece net, plait net in imitation of Valenciennes, &c. 2. The "pusher" machine, which has independent pushers, to propel the bobbins and carriages from front to back, instead of pulling or hooking them, as in other arrangements. This is applied to the production of shawls, scarfs, flounces, &c. of superior quality, the pattern being afterwards worked by hand. 3. The "circular" machine, so called from the bolts or combs on which the carriages pass being made circular instead of straight, as in the straight-bolt machines originally constructed. By this machine imitations of the Swiss curtains, plain, spotted, and fancy nets, are made. 4. "Traverse warp-machines," so called from the warp traversing instead of the carriages, as in the circular and pusher machines. These are employed in making spotted lace, blond edgings, and imitation thread laces. Mr. Birkin adds, that owing to the substitution of wide for narrow machines the total number employed is less than it was in 1836. "There are now," he observes, "in full operation in Nottingham, 3200 bobbin-net machines, giving employment to 5556 men, and 6859 women and children,* and representing a capital of 1,329,445*l.* This is exclusive of buildings and requisite machinery for working the same; and also of machinery and stock for silk-throwing, cotton-spinning, dyeing, bleaching, and dressing; of smiths, bobbin, carriage, guide, comb, and point makers; and of embroiderers, carders, menders, &c. The number of persons regularly employed in these branches of the Nottingham trade is about 113,300; and the capital represented by the machinery, &c. may be estimated at 1,616,500*l.* making a total capital of 2,965,945*l.* The annual amount of business returns is about 2,300,000*l.*

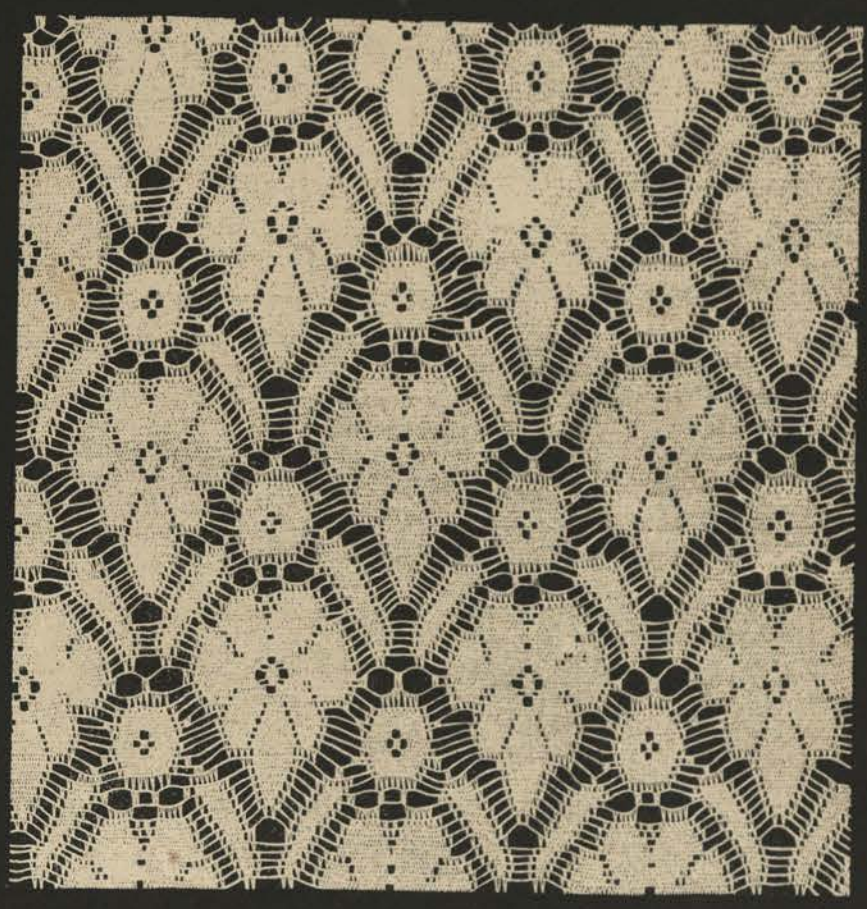
Mr. Felkin, whose experience adds the weight of authority to his calculations, estimated in 1831 that the raw material (cotton and silk) used annually for Nottingham lace was worth about 150,000*l.*; that this value was increased to 540,000*l.* when spun into thread; and that the final value, when manufactured into net, and ready for sale, was nearly 2,000,000*l.*, or, including the wages of the embroiderers, more than 3,000,000*l.*

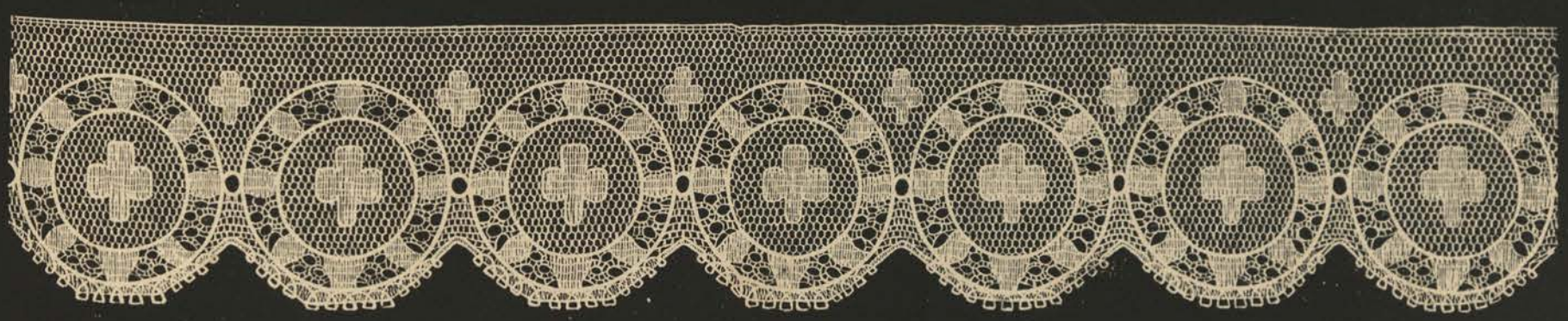
The black-silk lace trade of Nottingham, introduced within the last five years, has since greatly increased. The great bulk, however, of the bobbin-net is made of cotton, chiefly imported from the Manchester districts.

We had contemplated laying before our readers some account of the action of the bobbin-net machine, one of the most elaborate and complicated of any employed in textile manufactures; but, referring to the article already mentioned by Professor Barlow, we will merely quote the words of Mr. Birkin, which clearly and briefly describe the principle on which it acts:—"The bobbin-net machine is so called from the thread that makes the lace being partly supplied from bobbins, and partly from a warp placed perpendicularly. The bobbins being made to pass from front to back, and from back to front, while a lateral motion is imparted to the warp-threads, thus causing one series of threads to wrap or twist round the other. Mr. Heathcoat's original machine required sixty motions to complete one hole, the same being now made with six.

* The introduction of machines for "finishing," or embroidering the goods, has led to a great diminution in the number of females, or "lace runners," employed in the manner described in our former article.







J. SLIEGH. DEL ET LITH.

M. DIGBY WYATT, DIREX.

MACHINE MADE LACE BY HEYMAN & ALEXANDER AND BY BIRKEN OF NOTTINGHAM

LONDON: PRINTED AND PUBLISHED OCT.R 1ST 1852. BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CIII.

FLORENTINE MOSAIC, BY WOODRUFF OF BAKEWELL, DERBYSHIRE.

AND

ENAMELLED SLATE, BY MAGNUS OF PIMLICO.

The console table-tops we engrave in this Plate display specimens of English workmanship in a branch of art hitherto only known to us by examples produced in Florence; and therefore called Florentine mosaic. The work itself is a species of marble inlaying or marquetry, for which Florence has become as famous as Rome has for her cameos and vitreous mosaics; and it is gratifying to observe that our artists are at last leaving the old track of mere geometrical forms, in which the materials themselves were the chief objects of the workman's attention, their artistic disposition being regarded as worthy only of minor consideration.

The term mosaic has been applied to all pictorial representations of forms and objects by means of hard substances cemented together in their proper shapes and colours; in its various branches it was extensively practised by the Greeks and Romans, and after the destruction of the arts in Italy during the incursions of the northern barbarians, was only understood by the artificers of the Eastern or Greek Empire, many of whom were afterwards brought into Italy. Subsequently, Germans came southward, and during the eleventh, twelfth, and thirteenth centuries, mosaicists of these nations are continually mentioned as working on the several buildings then in course of erection in Italy. Constantinople was the point from which the Greek artists chiefly came, though it has been asserted that a school of mosaic existed in Rome up to the eleventh century. Nevertheless, we do not meet with Italian names until the thirteenth century. From this period it is probable that the Italians learnt the art and worked at it themselves, though Greeks are still to be met with. Zobi, in his valuable account of the art of pietra dura,* says, it appears that the first who exercised this art in Tuscany was Jacopo da Turrita, called Fra Mino (said by Lanzi to be a pupil of Guido da Siena), who executed mosaics in the Battisterio di San Giovanni in Florence in the year 1225. Subsequently to him we find Andrea Tafi, who brought one Apollonius, a Greek, from Venice to Florence, and from him learnt the Greek method of vitreous mosaic working. In regard to this particular branch (the Florentine), he says, "I know no existing example in Italy of marble mosaic executed during the first periods of the revival of the arts, excepting the specimen to be seen in the central nave of Siena Cathedral, said to be the work of Duccio di Buoninsegna, who lived in the fourteenth century." Vasari, in his life of this artist, thus speaks of him:—"Duccio, a Siennese painter, merited the highest esteem from having, in the pavement of the Cathedral of Siena, laid the foundation of the practice of inlaying in marble figures in chiaro-scuro, an art in which modern artificers have produced those wonderful works we now see." It should be mentioned, that in this pavement lines of a black mastic were introduced to heighten the effect. This mode of working was continued for a long period, but eventually marbles were altogether employed. The system above mentioned, in combination with the practice of working in agate and rock crystal, much followed at this time, and the art of tarsia, or inlaying in wood of different colours, in vogue at Verona, and Florence, we may fairly consider to have produced the style of lavoro di commesso, or Florentine mosaic, as it is more generally called. The art was much fostered by the Medici; and the celebrated Fabrica Ducale of Florence was founded by Ferdinand I., in the year 1588.

* "Notizie Storiche riguardanti l'Imperiale e reale Stabilimento dei Lavori di Commesso in Pietre Dure di Firenze, compilate da Antonio Zobi. Firenze, 1841."

In this manufactory, maintained by the liberality of the successive Grand Dukes of Tuscany, agates and other hard stones are cut into shapes which, when set together, form a picture, on a flat surface, of shells, flowers, foliage, or other objects. The difference of these pictures from representations of the same subjects in glass mosaic consists principally in the pieces having a large surface, and being cut into the form of the object, the variety in the shade of the colour being the natural tint of the stone itself; it is, therefore, more limited in its scope, inasmuch as glass mosaic, being composed of pieces of any size and of any colour, may be made to represent the most finished pictures; whereas the inlaid agate-work, from the gradation of tints and colours being entirely dependent on the natural tints of the stones, is only fit for simple designs composed of outlines and a few colours; though indeed it is wonderful to see how beautiful and varied are the works which from time to time have emanated from the above-mentioned Fabrica Ducale. The materials employed are agates, chalcedony, jasper of various colours, lapis lazuli, and other stones suitable by their colours, hardness, and polish. Stones less hard than the above are also used, such as giallo antico, Oriental alabaster, &c., which are valuable from their beautiful colour and polish; other substances, not mineral, are likewise introduced—such as mother-of-pearl, and red coral. The ground is made from either rosso antico or more generally nero antico. Formerly the subjects sought to be represented were such as the Pantheon, tomb of Cecilia Metella, &c.; the result was, however, not very satisfactory, thus furnishing one of the many examples of the impropriety of proceeding with an unpliant material beyond those conventional forms, which of themselves give evidence of the limit to which they should be employed. The more suitable subjects now represented are shells, corals, flowers, vases, and foliage; these are made up on tables, paper-weights, brooches, vases, &c. In the Fabrica Ducale works of a larger description are manufactured, such as the beautiful altar-piece lately completed of pietra dura mosaic, for the Medicean sepulchral chapel of St. Lorenzo. In the Galleria there is a beautiful pietra dura table. Also several in the Pitti Palace, some of which made the memorable journey to Paris, and appeared in the gallery of Apollo in the Louvre.

The cutting of the agates is effected by a bow strung with an iron wire, and emery, which produce the same result as the thin iron wheel of our lapidaries. By these means the agates are cut into slices about the eighth of an inch thick; they are then polished, and by the above bow and wire are cut into the required forms. A slab of sandstone, about half an inch in thickness, supplies a temporary base, on which the various pieces forming the objects are put together and cemented. The material, whatever it may be, which is to form the ground colour, is then cut into slices of the same thickness, and adjusted so as to cover the whole table-top. By means of the wire, pieces of the exact size of the objects are cut out of this ground, which is then cemented on to a base of sandstone of the same size, and the pieces being removed from the temporary base, are also cemented into the vacuities cut in the ground, thus producing the representation intended. The cement used is a composition of wax, turpentine, and resin. The inlaying of marbles and agates has long been carried on at Matlock, in Derbyshire; but no attempts had been made to proceed beyond the most commonplace subjects, such as scrap-tables, &c., in which form or design seem to have been the last things thought of, till about 1833, when an imitation of Florentine work was tried in such subjects as butterflies and birds. At a later period the work was advanced to the production of sprays of flowers. In 1840 Mr. Woodruff, the gentleman who has executed the beautiful tables now engraved, produced a table-top, in which were introduced groups of birds, flowers, and fruit, which was at the time considered a great step in advance, and was purchased by the late Duke of Cambridge. Mr. Woodruff subsequently received the patronage of the late Queen Dowager, her present Majesty, and many of the nobility; amongst whom the Duke of Devonshire has shown the greatest interest in the manufacture, and much advanced it by allowing the free inspection of the beautiful specimens of Florentine work in his possession at Chatsworth. The specimens we give were made for H.R.H. Prince Albert, from the designs of Mr. Gruner, and were very properly the objects of a Prize medal for their excellent execution.

The subject occupying the centre of the present Plate is an imitation of Florentine mosaic, executed by Mr. Magnus, in his interesting manufacture of enamelled slate. The extreme hardness of the artificial surface of this material is truly remarkable. It is produced by applying to the finely-rubbed slate numerous coats of japanning, the whole being constantly baked, at a very high temperature. The texture of marble is given to it, by an ingenious application of the ordinary practice of book-marbling, modified with much judgment by Mr. Magnus; whose endeavours to combine economy of production with the greatest possible amount of good taste, are highly to be commended.

L HAYES DEL M DIGBY WYATT DIREXT F BEDFORD LITH

FLORENTINE MOSAIC BY WOODRIFF OF BAKEWELL, AND ENAMELLED SLATE BY MACNUS OF PIMLICO

LONDON, PRINTED AND PUBLISHED OCTOBER 1ST 1862 BY DAY & SON LITHOGRAPHERS TO THE QUEEN

PLATE CIV.

DECORATION OF AN INDIAN SADDLE-COVER.

Although, at first sight, this elegant specimen of design appears to have been executed by means of spangles sewn on to the velvet groundwork, a closer examination shows that each of the little bosses which form the decoration are, in reality, small brass-headed nails; and have been driven into the leather beneath the velvet, and securely fixed by being clenched up at the back. The regularity with which this work has been done, the skill with which the curves of the pattern have been followed, together with the refined taste and elegance of the design, reflect the highest credit upon the native artizan.

The superb trappings, of which the specimen we engrave formed a part, were contributed by His Highness the Rajah of Kottah to the Great Exhibition, in which they attracted universal attention and admiration.

It has been justly remarked by Dr. Royle,* who has done more than any other person to enforce the lessons to be derived from the study of the Indian department of the Exhibition, that "while treating of the arts of an anciently civilised country, it is hardly possible to avoid noticing their antiquity. Nor is it," he adds, "desirable to do so, for though some may conceive that the literature of the arts, and their probable antiquity, deserve only the attention of antiquarians, I am of opinion that it is detrimental to the arts to separate them so much as is usually the case, both from literature and science. It is owing to such neglect that we have so little information respecting the arts, not only of the ancients, but of many modern nations. For those who are qualified to write are usually unacquainted with, and often despise, the details which it is necessary to describe; while those who formerly practised the mechanical arts, seldom took the trouble to describe what they alone knew how to make. As it is still common with us all to depreciate subjects of which we are ignorant, and to over-estimate those which we study, so it is not unusual for the practical man to be wrapped up in his own skill, or what he conceives to be his own original discoveries; and though many of these are due to accident, and others are the legitimate results of careful thought, he seldom inquires what others have done in former times, or are doing in other countries even in his own time. It would not be difficult to prove, that had a little more interest been shown in inquiring into the history of the arts, even of India, many so-called discoveries would not appear to have been made in the nineteenth century; but we might years since have started from points which others had reached even ages before."

In our last two notices of Indian productions, we endeavoured to trace the circumstances which attended the developement of art among the two great races of the population of that continent. On the present occasion we may avail ourselves of the following remarks of Dr. Royle, on the antiquity of Oriental design in general:—"Though few may deny altogether the antiquity of the arts in India, many may be disposed to limit this antiquity to comparatively recent times. It is desirable, therefore, to get some idea of what we mean when we talk of the antiquity of these arts. But this is a task of some difficulty, from the little attention which the Hindoos themselves have paid to the canons of chronology. All are familiar with the habit of some authors of referring everything to the East, and of the now proverbial expression of "*ex Oriente lux.*" But these terms are so indefinite that we are at a loss to know to what nation they refer, whether to the Persians or to the Babylonians, to the ancient Assyrians, or to the still more ancient Egyptians. For all these were early civilised nations. But if it were not from the representations within the tombs of Egypt, or from

* "Lecture on the Arts and Manufactures of India, read at the Society of Arts, Feb. 18, 1852."

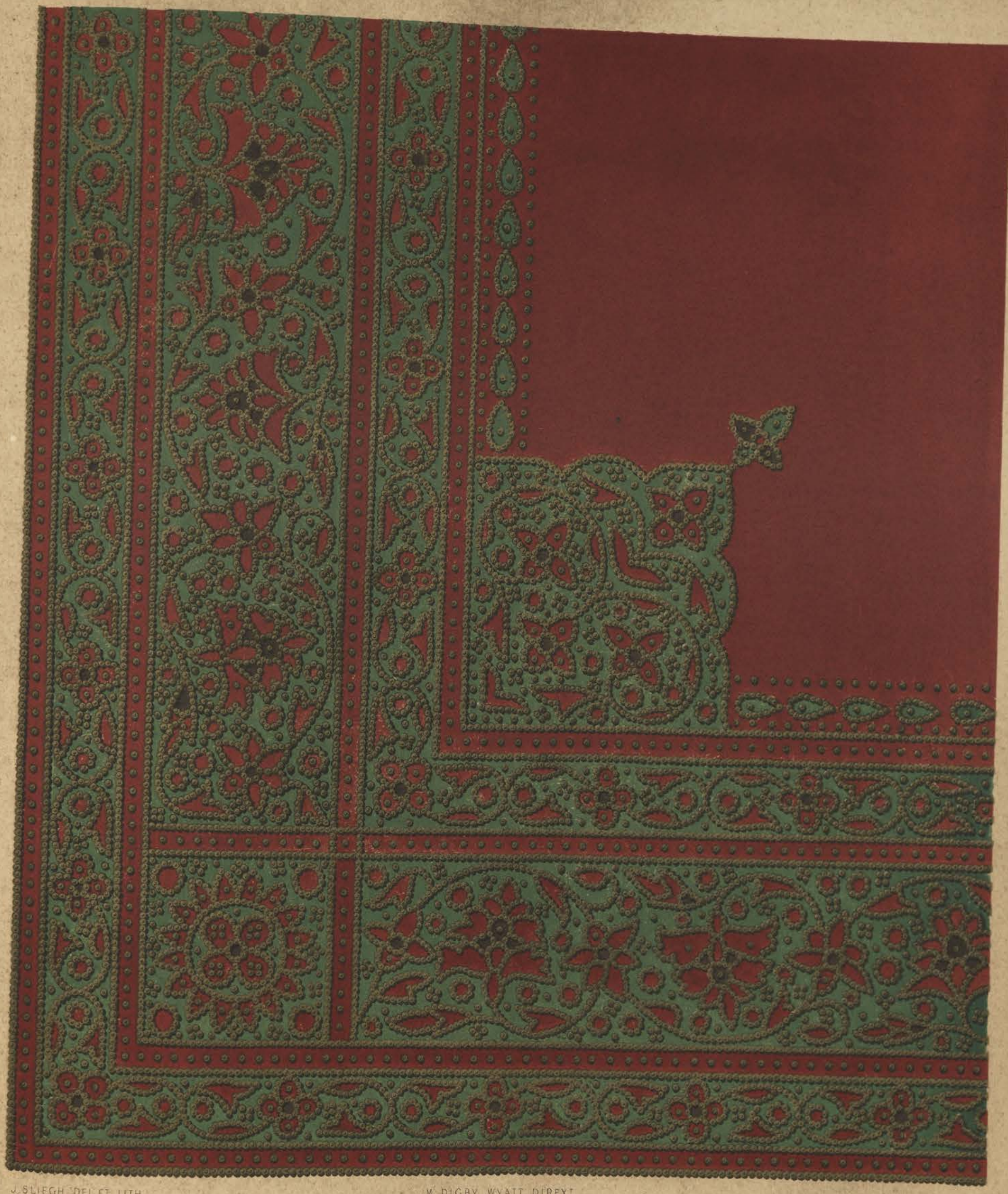
finding a few specimens of these arts in the disinterred palaces of Assyria, or on the sculptured monuments of Persia, we should be unable to judge, and unwilling to admit, the high perfection to which many of these arts had attained in very ancient times. So in the case of China, if it had not been for the researches of scholars, we should have disbelieved the high antiquity in that country of the manufacture of porcelain and of paper, a knowledge of silk, of gunpowder, of various metallurgical compounds, and of the mariner's compass. But in all these countries India is referred to, in the earliest times, as an object of admiration or of desire; and though we may disbelieve in the conquest of any part of India by the Egyptian Sesostris, or the Assyrian Ninus, or in the expedition of the Indian Bacchus, yet the very prevalence of such traditions in the earliest times of which we have any record, seems to prove that the country was famed for the richness of its products, and for the early civilisation of its inhabitants. We know, moreover, that Alexander the Great found them so more than 2000 years ago, and we find them now hardly differing from what his historians described them to be in his time. The Chinese, moreover, derived their most popular religion, and one class of their sacred books, from India."

The authors who have most deeply investigated the particular question of the antiquity of the Hindoo writings, have been inclined to date those singular documents, the hymns of the Vedas, at least as far back as the year 1000 B.C. Those venerable records prove that the Hindoos were then not only an eminently agricultural people, but, as Professor Wilson observes, a manufacturing people also; "for," he remarks, "the art of weaving, the labours of the carpenter, and the fabrication of golden and of iron mail, are alluded to: and, what is more remarkable, they were a maritime and mercantile people." The latter observation is strongly borne out by the view taken by that great German student, Heeren, who, from very different premises, arrives at the same conclusion. In investigating the nature of the products which are reputed to have formed the principal elements in the trade of Persia and Phœnicia, that learned author has expressed his belief that many of them emanated from India.

Referring to the extensive trade carried on by Solomon, Dr. Royle has observed (in his "Essay on the Antiquity of Hindoo Medicine") that, from the different products described as brought to the court of that monarch—"especially ivory, apes, peacocks, and pearls—it is evident that only southern countries, whether Africa or India, could have been the object of the voyage. But cinnamon, and cassia, nard, calamus, and onycha, having been shown to be peculiarly Indian products known to ancient commerce, there can, I conceive, be no doubt that the west coast of India, and probably also the island of Ceylon, were reached, even in those early times."

Dr. Royle, in his "Lecture," proceeds to state that "the philosophical Heeren appears to have justly ascribed the flourishing state of many of the cities of Egypt, as well as of Babylon, and of such places as Palmyra and Petra, to their trade with India. Many of the products which formed articles of commerce, were such that they could not have been obtained from any nearer locality. Being ourselves situated in a remote corner of Europe, we contemplate the difficulties of these journeyings and voyages from an insular point of view, and consider how we could have undertaken them at those early times; forgetting that the people of Persia and Affghanistan would have found no great difficulty in crossing into India, nor the Phœnicians of the Persian Gulf even in reaching the mouths of the Indus. The Arabs of the Red Sea, even before the discovery of the regularity of the monsoons, might easily have coasted to the Persian Gulf, and gone as far as, or beyond the Phœnicians, to the ancient Barygaza, and been carried from thence to the western or the Malabar coast of India, which is the nearest point where pepper, cassia, and other such spices, could have been obtained. There is nothing impossible in these ancient wanderings; in fact, we know that they must have taken place: for the philosophical investigations into the structure of languages have shown a great similarity between the Sanscrit, Persian, Greek, Latin, Teutonic, and Celtic, which are now usually called Indo-Germanic, but of late Aryan languages, because this appears to be the oldest name by which the nations speaking them called themselves. It is curious, as has been observed, that the Indo-European languages all exhibit the most striking coincidences in words expressive of the first peaceful arts of mankind, while the terms connected with the chase or war are mostly peculiar. Consequently, there appears to me nothing improbable in the people of India having been as early civilised as any of the nations I have mentioned."

We hope to pursue these interesting inquiries in a future article.



J. SLIEGH DEL ET LITH

M. DIGBY WYATT, DIREXT

DECORATION OF AN INDIAN SADDLE COVER

LONDON PRINTED AND PUBLISHED OCTR 1ST 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE CV.

A SHIELD IN IRON,

DESIGNED BY VECHTE FOR LEPAGE MOUTIER OF PARIS,

AND TWO PISTOLS.

THE principal object in our present plate might well, both from its artistic merits and technical excellence, be ranged with many of those bucklers which the immortal Cellini and his compeers have left us as memorials of their own powers, and of the high standard of art at that period.

We have already had occasion, when calling attention to another work of M. Vechte's (Plate XXVII.), to speak in terms of high commendation of that artist's labours, and we shall be fully justified in extending that praise to the object here represented. The subject of the composition is the "Massacre of the Innocents," with an appropriate centre of Furies and loathsome monsters; the whole is enclosed by an arabesque border in low relief.

According to our promise in a former article, we shall proceed to lay before our readers some account of the life and strivings of M. Vechte, the materials for which have been most kindly furnished us by that artist.

M. Vechte (born 1801) is native of Vir in Burgundy, but he was taken at an early age to Paris, where his first occupation was cotton-spinning; he afterwards worked at the several trades of toy-maker, paper-hanger, button-maker, and carpenter, and continued in a very humble station in life, not always free from actual deprivation.

After losing both his parents our artist obtained some employment with a man named Daussin, by trade a chaser, and thus, as it were, made the first step on that path, which he has since trodden so perseveringly, and at last successfully. While with Daussin he accidentally met with Plutarch's Lives of great men, the perusal of which so stimulated his ambition that he thenceforward aspired to the profession of an artist, though he had no master to assist his studies, pursued amid the toil of the workshop. M. Vechte's peculiar talents appear to have exhibited themselves in a manner so original as to have drawn down upon him the derision of his companions, who considered him visionary and self-conceited; but he would not allow himself to be discouraged, bearing steadily one object in view, namely, ultimate success. A number of years of anxious labour passed, however, without any very great result; or, as our artist himself says, he was still nothing more than a good workman, and laboured for others. He was next induced by the care of a rising family to work on his own account, but an unfortunate partnership in a short time again reduced him to his former condition of a working chaser. He began, however, to be known in his trade, and appears also to have been employed by some curiosity-dealers, to restore and retouch suits of antient armour. In executing these little commissions he exhibited so much proficiency that he was engaged to make some entire pieces of armour in *imitation* of the antique. In this, also, he was so successful, that his commissions for such works multiplied to such an extent as to afford him constant employment; for the dealers found that the productions of this obscure workman could be passed off to antiquarian connoisseurs as veritable specimens of antient art; and M. Vechte has, doubtless, supplied many an object of cinque-cento art to the private cabinets or even the public museums of Europe.

When our artist became acquainted with these circumstances, his slumbering ambition of attaining eminence in his profession was again roused, and he pursued his studies with redoubled vigour; the more so as the work he was engaged on necessitated a constant recurrence to antient examples, until he seems to have become thoroughly imbued with the spirit of that beautiful period of art, known as the cinque-cento. He says himself: "I have learnt since, that many works which I then executed were sold to, and still remain in, the collections of many acknowledged connoisseurs as originals; even public museums, notwithstanding the experience of their officers, have not escaped from imposition, as I know that the Emperor of Russia and the King of Prussia have purchased shields as the genuine works of Cellini, upon which I could point out to them my own name."

As soon as some of M. Vechte's larger imitative works became known at Paris, he was as much courted by his fellow-artists as he had before been neglected and discouraged, and he had no lack of employment of the highest class. The first of his more important commissions was from the Duc d'Albert de Luynes, who ordered a vase to be executed in repoussé; the subject to be represented was the triumph of Neptune. This procured our artist an introduction to his Majesty Louis Philippe, who acknowledged his talent by decorating him as a Knight of the Legion of Honour, on the occasion of his exhibiting a cup executed for M. Devendeuvres. M. Vechte also received a gold medal from the Government the first time he publicly exhibited his work. "At that time," he says, "everything was prosperous with me; for, besides these honours, I had commissions to the amount of 1,500,000 francs (60,000*l.*);" but the ill-fated year 1848 deprived him of his employment and dispersed his hopes of future advancement. His patrons all withdrew their orders on account of the unsettled state of public affairs, and the only work which he retained was a vase for the Museum of the Louvre.

It was at this juncture that Messrs. Hunt and Rosskell renewed an offer they had made to M. Vechte in the previous year to come to London, but which he had then been unable to entertain owing to his numerous engagements; he now accepted their proposal, and speaks most highly of the liberal encouragement he has received from them. He immediately set to work upon the large shield in silver and iron in repoussé, on which is represented the apotheosis of Milton, Newton, and Shakspeare, and which deservedly attracted so much attention in the Great Exhibition. Our artist has since executed a large vase in silver repoussé, which was the prize cup at the last Goodwood races, and we understand that Her Majesty has given a commission for a similar one.

The incidents of M. Vechte's life, thus briefly sketched, furnish a strong practical illustration of what may be accomplished by moral courage and perseverance, even under great financial and educational disadvantages, and opposed by the great obstructor of progress, prejudice. Of this artist's future success no one, we think, can entertain a doubt, and it must be considered a subject of congratulation to this country that his works will in future be identified with it.

L.H. MICHAEL, DEL. M. DIGBY WYATT, DIREXT. J.A. VINTER, LITH.

A SHIELD IN IRON DESIGNED BY VECHTE FOR LEPAGE MOUTIER OF PARIS.

LONDON, PRINTED AND PUBLISHED OCT^R 15TH 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CVI.

STOVE IN THE MEDIÆVAL STYLE,

DESIGNED BY PUGIN FOR HARDMAN OF BIRMINGHAM.

No one who has visited the Continent can have failed to draw a comparison between the cumbrous blackleaded erections of cast-iron which disfigure so many of our public buildings, and the elegant stove of white earthenware by which the French and Germans obtain the requisite degree of warmth, without offending the eye that can appreciate the beautiful in every form; and if we may judge by the beautiful execution of the coloured arabesques, with which so many of their stoves are decorated, they must be rather costly pieces of furniture. The more common sorts are, it is true, without coloured ornament; but the raised or sunk enrichments are often beautiful, and rarely offend against the canons of good taste.

We have already given (at Plate LV.) an example of these stoves contributed to the Great Exhibition by Berlin; but the subject of our present Plate is of a very different construction, and is intended for the heating of a large hall, or other public place. Instead of the tiles themselves forming the structure of the stove, they are placed in a framework of iron, and only serve as an outer enclosure to the flues and fire-box of the stove.

The invention of these closed stoves, as we gather from the evidences of the monuments and MSS. of the middle ages, must be awarded to the Germans; for it is in the works of their artists that representations of them most frequently occur, and the only existing examples have been discovered in their principal cities and castles. Two of these are represented in the excellent work of Herr Heideloff on the middle ages, the most perfect of them is now in the Hohen Schloss at Fussen, and deserves particular attention, as it bears the name of the maker and the place of manufacture in a raised inscription running round the base, and which reads thus:—"Diser : ofen : wol : gestald : wurd : gemacht : da : man : zalt : 1514 : jar : bey Hansen : Seltzaman : vogt : zu : Obendorft."* The stove is built up of hollow ornamental tiles, with the concave side outwards, into the form of an hexagonal tower of some ten or twelve feet high, the whole of the exterior being covered with a green glaze, relieved by yellow ornaments. The second specimen was found in a very imperfect state among the old buildings of the "Prediger Kloster" at Nuremburg; and although presenting similar characteristics to the preceding example, differs greatly in the architectural treatment of the details. The tower-like outline and the use of hollow tiles are represented by nearly every contemporary authority as generally prevalent.

Great praise is due both to the late Mr. Pugin and Messrs. Minton and Hardman for the design and execution of this stove. It was evidently the object of the talented artist, whose decease we all deplore, to present a specimen of the mediæval stove, adapted in some respects to modern improvements, and not quite so cumbersome as those in vogue in the fifteenth and sixteenth centuries.

Mr. Minton has performed his part in the manufacture of the tiles with a skill worthy of those master-potters, Glockenthorn, Prunner, Pröbes, Leygebe, and Andreas Leupold, whose works obtained for Nuremburg the same reputation for *Faience* that those of Albert Durer and others had previously done for sculpture and painting. A very considerable trade was carried on both by this city and Augsburg in earthenware

* "This stove, well formed, was made in the year 1514, by Hansen Seltzaman, mayor of Oberdorft."

stoves and other fictile ware; and it is not unlikely that the Dutch tiles, with blue figures, which were so extensively used during the last century, were originally manufactured in these towns.

It was not until the middle of the sixteenth century that the art of applying to pottery a white stanniferous glaze became generally known in Europe; although it was certainly in possession of the Arabs in the thirteenth century, and had been re-discovered in the fifteenth by the labours of the celebrated Luca della Robbia. It has, however, been supposed that the secret was known to the Arabs as early as the ninth century; and it is still a disputed point whether they were the inventors or had received the art from some of their more eastern neighbours. They certainly brought it with them into the countries they conquered and colonised in their great westward movement, and to this day the walls of their monuments at Cadiz, Cordova, and Seville, glow with the imperishable colours of the "Azuleijos;" a species of tile, manufactured in no very dissimilar manner from those which form the materials of the "Mediæval Stove." The chief peculiarity consists in the pattern being raised, and after the whole surface had been covered with the white stanniferous glaze, the interstices between the raised parts were partly filled with variously-coloured enamels; these were, however, so thin that the pattern retained nearly all its original prominence. It is not exactly known whether the tile had to be passed several times through the kiln, or whether one or two firings were sufficient. The Azuleijos were highly esteemed by the Arab architects, as forming a durable facing for the internal walls, where the coloured plaster-work could not be employed without great risk of getting disfigured. In this position they play an important *rôle* among the decorations of the Alhambra; and some few of them even found their way to our own country* at a time when we might imagine that there would have been but little commerce in such articles between Spain and the West of England.

When the opaque stanniferous glaze became better known, many attempts were made to apply it to the manufacture of tiles; some of these productions may be seen in the Museum of the Hôtel de Cluny at Paris, and present simply an incised pattern, like those of the eleventh and twelfth centuries: others, however, have finely-drawn heads in circles, and other ornaments of the Renaissance style, most of which are executed in a blue colour upon the white ground. They deserve attention as the prototypes of the common Dutch tiles, concerning which we may hazard the remark, that had they been executed in the thirteenth or fourteenth centuries, in Italian *ateliers,* instead of in the seventeenth and eighteenth, they would have formed a class of art-manufactures worthy to be placed with those of Etruria and Faenza, instead of, in many cases, provoking our ridicule by the awkward drawing of the figures and ornaments.

White tiles, presenting various painted patterns in bright colours, may occasionally be found in Italy and Belgium, but they are exceedingly rare, and, as objects of antiquity, command high prices. Of late years, many of the French and German stoves have their tiles enriched with the most charming arabesques, often copied from the works of Raphael and Giulio Romano. In our own country, Mr. Minton and other manufacturers have lately produced painted tiles of great excellence, the principal application of which has been to line the cheeks of fireplaces; and the object now illustrated shows how they may be further used to add to the utility and improve the appearance of our stoves, which are at present too often only unsightly encumbrances.

* In the Mayor's Chapel at Bristol.

M. DIGBY WYATT, DIRECT.

F. BEDFORD LITH.

STOVE IN THE MEDIŒVAL STYLE DESIGNED BY PUGIN FOR HARDMAN OF BIRMINGHAM.

LONDON. PRINTED AND PUBLISHED OCTR 15TH 1852 BY DAY & SON LITHOGRAPHERS TO THE QUEEN

PLATE CVII.

VASE AND DISH ENRICHED WITH ENAMEL,

EXECUTED BY MOREL FOR WEBB OF LONDON.

The beauty of the form, material, and decoration, of the objects grouped in the present Plate, scarcely require to be pointed out in detail to the intelligent observer. The coloured enrichments, which are very judiciously introduced, are executed in enamel of the description known as the "painted" and the "translucent." The peculiar processes by which these are applied we shall take occasion to describe hereafter; at present we proceed with the general history of the art, in continuation of our former notice (Plate LI.).

The term champlevé has been happily applied by the French antiquaries to the second great division of incrusted enamels; which, although presenting no very dissimilar appearance to the cloisonnés, were executed by a different process—one that had the advantage of being exceedingly simple, and was probably invented by those half-civilised nations whom Philostratus designates, in the third century, as the "barbarians near the ocean,"* who, he says, possessed the art of fixing colours upon brass.

In our notice of the Byzantine and Italian works, we mentioned that the cells for the reception of the different enamels were formed by thin bands of gold attached to the ground; but in the ornaments of the Western nations these cells are made by removing the ground of the metal itself to the depth of about one-sixteenth or one-eighth of an inch, leaving thin strips of the material (nearly always brass) to separate the enamels. Ornaments of this description are for the most part discovered in Great Britain and the north-western parts of France. It is, therefore, not improbable that many of them may have been produced by the artists of Limoges—a city which, during the whole of the Roman occupation of Gaul, was a great emporium for works in the precious metals, and eventually gave her name to a branch of this very art. But little light is thrown upon the art-history of this city by the scanty chronicles of the dark ages. That it possessed a school of skilful goldsmiths is apparent from the fact that Eloi, the best workman of his age, was educated there by Abbon, the moneyer; but there exists no information respecting the subject of our inquiry, beyond some obscure notices of an enamelled chalice and ring, said to have been the property of the great saint; and even these, it is not improbable, were, like most of the contemporary ornaments, of cloisonné work. In fact, there is a great lacuna in the history of champlevé enamelling between the Gallo-Roman period and the reappearance of the art in the eleventh century under Byzantine influence.

This Byzantine influence came through the Venetians, who, as early as 979, established a "comptoir," or factory, at Limoges, for the reception and sale of the "spiceries" and fabrics imported from the Levant to Marseilles: a land journey conveyed them to the "comptoir," whence they were distributed throughout the west of France. At that period few people were so completely imbued with Byzantine art as the Venetians. They had received and employed the artists expelled by the iconoclast emperors; a great part of their trade was to the capital of the East, and finally they were in the habit of commissioning Greek artists to execute works in which more than usual skill was required; such, for instance, as the *Palliotto*, concerning which it

* These were probably the inhabitants of the north-western part of Gaul, from whom the art may have been communicated to the Britons, and thence it passed to Ireland. One of the finest examples of British work is a vase found in Essex, in 1834, and engraved in vol. xxvi. of the "Archæologia."

is to be remarked that the Doge Orseolo, by whom the commission was first given, afterwards retired into France. Under these circumstances we can scarcely be surprised to find the figures on the Limoges enamels of the eleventh century with a decidedly Byzantine style of drawing; or that saints are represented, who are little known in the Western Church; or, again, that the first specimens should have the ground, figures, and carnations, all enamelled in imitation of the cloisonné work. So strong, indeed, was the impress of the Greek style on the works of the Limoges school, that two centuries elapsed before it disappeared, and some traces remained even to the very last.

The first work, concerning which we have any information, is that of the Monk Guinamundus, of the Abbey la Chaise-dieu, who is known to have fabricated the shrine of St. Front, at Perigueux, in 1077. The work of Frater Willielmus, whose name appears on the beautiful crosier now preserved at Goodrich court, is probably about the same date, as are also two enamelled plates (in the Hôtel de Cluny) supposed to be part of the altar of the Abbey of Grandmont. A little later we have the monumental plate of Geoffry le Bel, now in the Museum at Mans; and in 1180 and 1201, the exquisite tombs of Henri le Large and Thibaut III. counts of Champagne, formerly in the cathedral of Troyes, and destroyed in the great revolution.

At the latter part of the twelfth century, and during the whole of the thirteenth, Limoges produced an immense number of objects, not only for ecclesiastical use, but also for the purposes of every-day life; and we are enabled to form some idea of the extent of the manufacture when we find that very nearly every parish church in Acquitain possesses, even now, one or more specimens of the "opus Limoviticum"—to say nothing of those buried in the cabinets of antiquaries, or the still greater number melted up for the sake of the material, or destroyed by the Reformers. Of all the beautiful tombs and effigies which proceeded from the Limousin *ateliers* only two remain—that of William de Valence (1296), in Westminster Abbey; and that of John, son of St. Louis, in the church of St. Denis. Both are mutilated, but both are conspicuous for the freedom and delicacy of the ornaments; serving only to increase our regret for the loss of those of Walter Merton, bishop of Rochester (1267), Alix duchess of Brittany, and many others. The articles for ecclesiastical use consist principally of crosses, crosiers, pixes, candlesticks, shrines, and the small reliquaries, which were so commonly known under the appellation of "Bahuts de Limoges." We must also notice the exception made in favour of the "opus Limoviticum" as a material for chalices and ciboria, which were by a papal decree expressly forbidden to be made in brass, "propter ærubiginem." A small number only of those vessels destined for domestic use have come down to us. A scarcity, due partly to the price of the workmanship, which rendered it little less costly than silver, and yet of no intrinsic value, and therefore useless to send to the moneyer upon an emergency. However, there remain a few caskets, fibulæ, bars for girdles, escutcheons for heralds, basons, and ornaments for horse harness; but, unfortunately, in small numbers, with the exceptions of the heralds' escutcheons and the basons, the latter are for the most part ornamented with charming scenes from the "faibleaux" so popular at the period of their manufacture.

We have before observed that the productions of the eleventh and twelfth centuries are more or less in imitation of the cloisonné work—the carnations, figures, and ground, being all in enamel; but in the latter century we find an innovation by the introduction of two or more colours in the same compartment; and in the thirteenth the ground only is enamelled, leaving the figures in the metal, with their details expressed by the burin. Occasionally, however, the head is beaten up in another piece of metal, and afterwards applied to the flat surface; and in small articles whole figures are often treated in this manner.

Limoges continued to flourish during the eleventh, twelfth, thirteenth, and latter half of the fourteenth centuries, at which time the town was taken and sacked by the English. This misfortune was, indeed, repaired in a few years, but the trade of the town was beset by an enemy far more powerful than the English prince. A new kind of enamelling had been discovered by the Italian artists, and was more especially a branch of the goldsmith's art, not a separate trade; it was, moreover, capable of being easily applied to works in gold and silver, which, from some reason, were very numerous about this time. The consequence was, that the champlevé work was disused, and the enamellers of Limoges lost their employment.

DALZIEL, DEL.

M. DIGBY WYATT, DIREXT

F. BEDFORD, LITH

ENAMELLED VASE & DISH EXECUTED BY MORELL, FOR WEBB OF LONDON.

LONDON, PRINTED & PUBLISHED OCTR 15TH 1852, BY DAY & SON LITHOGRAPHERS TO THE QUEEN.

PLATE CVIII.

CARPET IN THE MEDIÆVAL STYLE,

DESIGNED BY PUGIN AND MANUFACTURED BY CRACE OF LONDON.

The display of carpets in the Great Exhibition of 1851 will be long remembered as amongst the most striking characteristics of that memorable collection. The carpets produced by British industry were then, for the first time, placed in comparison and contrast with the long-celebrated fabrics of Turkey, Persia, and India; and although some of the English specimens yielded to the latter in the highest qualities of harmonious design and colouring, it may be confidently asserted that they well maintained the reputation of our manufacturers.

The specimen we now engrave (rewarded by a Prize Medal) was, perhaps, one of the most meritorious in the whole Exhibition; displaying in a remarkable degree the admirable taste and feeling of the highly-gifted artist by whom it was designed. Aided, as Mr. Pugin fortunately was, by manufacturers unsurpassed in skilful execution, his designs were realised with a perfection seldom attainable; and in the present work—a carpet of mediæval pattern, adapted for the decoration of a sacred edifice—Mr. Crace has displayed at least an equal amount of ability with Mr. Hardman, Mr. Myers, Mr. Minton, and the other talented coadjutors of the late distinguished artist.

In connexion with our present plate, we propose to offer to the reader some notices (derived from various authorities) of the early use of carpets in this country; reserving for future articles a description of the processes employed in the manufacture of the different varieties of those objects, which have now become so essential to domestic comfort.

The Oriental origin of carpets is well known; and we still turn to the East for the finest and most luxurious fabrics of this description. Carpets of some kind—probably of fine needlework—were employed in the middle ages before the high altars, and in particular parts of the chapter-rooms of abbatial and other churches. Matthew Paris states that a Bishop of Toledo, in 1255, covered his floor with "tapestry." The same historian adds, that Eleanor of Castile, the faithful consort of Edward I., followed the example of this prelate, her fellow-countryman; and that the circumstance gave rise to some contempt, being doubtless regarded as an effeminate innovation. Bedside carpets in domestic buildings are mentioned as early as the year 1301; and in the romance of "Arthur of Little Britain,"—a work of the reign of Edward II.—there is a particular description of a sumptuous room, where, "round about the bed there lay on the floor carpets of silk, poynted and embroidered with images of gold." These, however, were evidently rare, and the floors of halls and other apartments were more commonly strewed with rushes: a custom which in some municipal buildings has been maintained, even in our own age. Describing the domestic edifices of the twelfth century, Mr. T. Hudson Turner observes, that "the floors were strewed with dried rushes in winter, and green fodder in summer;" and he states, that in the following century "the flooring of rooms on the ground story was sometimes boarded; but there is little doubt it was in general nothing more than the natural soil, well rammed down, over which a litter was thrown." It appears that the tables were often "fixed in the ground." The space below the dais was sometimes called "the marsh of the hall;" and, as Mr. Turner adds, "it was doubtless often damp and dirty enough to deserve the name." One of the characters in Lyly's "Sappho and Phaon" (1584), observes, "Strangers have green rushes, when daily guests are not worth a rush." The floor in the choirs of

churches was covered in the same way; and the "rush-bearing," or ceremony of bringing fresh rushes for that purpose, on the feast of the Dedication of the church, was always celebrated as a high festival. In 1577 "a lode of rushes" cost 15*s.*

Several "carpets" are mentioned in the will of Lady Hastings (1503); and in 1548 Lord Darcy bequeathed to one of his daughters his "best wrought silk carpet, bordered with crimson velvet," which she had made. The prejudice against carpets as articles of luxury long prevailed. Hall the Chronicler speaks of the Cardinal Bourbon as "a prelate more mete for a ladyes carpet than for an ecclesiastical pulpett;" and a "carpet-knight," or a "knight of the green-cloth," was a common expression of contempt for one who was knighted by court favour, and not for military service. Gawin Douglas, in his barbarous translation of the Æneid (1553), describes the "young gallants of Troy" as sitting down to meat "apoun rich bed sydis, oversprede with carpettes of the fyne purpoure." Somewhat later (1575), we find that Archbishop Parker possessed much valuable furniture and plate, including numerous carpets; for example, a Turkey carpet for the Presence Chamber, 5 yards long by $2\frac{3}{4}$ yards broad, valued at 3*l.*; an old Turkey carpet, 6*s.* 8*d.*; a long tapestry carpet, 3*s.* 4*d.*; a green carpet of broad-cloth, 5*s.*; "a little carpet of Bramage," 4*s.*; a silk Tournay carpet, 5*s.*; and others. About the same time there is an entry in the Household Book of Lord North, for "matting 3 chambers with Bedfordsheer matts, at 5*d.* the yard;" and "for grene table carpets, 3*l.* 7*s.* 6*d.*" Bacon, Shakspere, Ben Jonson, Beaumont and Fletcher, and other contemporary writers, frequently allude both to carpets and to the practice of strewing floors with rushes; and from the literature of the Elizabethan era in general, it appears that carpets were not then in general use for floors, but rather as covers for tables and stools, and for the side-boards, or court cupboards, on which the rich plate of the period was displayed. Thus, in the "Comedy of Errors," we are told that "in the desk that's covered o'er with Turkish tapestry, there is a purse of ducats;" and an inventory of the furniture at Hengrave Hall, in Suffolk, in 1603, contains the following curious items:—"One large coobard carpett of Turkeye work;" "one long Turkeye carpett, much of it red and yellow;" "carpetts to lay about the bed;" "a carpett of black velvet for the little bord;" "carpetts of Inglish work," with armorial bearings; "one square bord carpet cloth;" "a long bord cloth of greene clothe to laye over ye carpett of ye long borde;" and "carpets for the windows,* of Inglish worke, wrought with eglentynes." Hackluyt, in his Collection of Voyages, &c. (1600), was fully sensible of the excellence of Turkey carpets; for he observes, "If before you returne you could procure a singular good workman in the arte of Turkish carpet making, you should bringe the arte into this realme, and also thereby increase worke to your company." The "carpetts of Inglish worke" at Hengrave may have been tapestry, which was woven in England in the reign of Henry VIII. There is a tradition that the first woollen carpet woven in this country was produced at Wilton, where a very superior description of these fabrics is still made.

A considerable time elapsed before the use of carpets became sufficiently general to lead to their systematic manufacture in England; and the art of carpet-weaving was not established at Kidderminster till the year 1735, although the town had long before enjoyed an extensive trade in broad-cloths and other woollen and worsted goods. Some extensive tapestry works were established at Mortlake by Sir Francis Crane, in 1619; and an extraordinary amount of patronage and pecuniary aid was bestowed upon that manufactory by James I. and his two royal successors. In 1651 the establishment contained one room, eighty-two feet long by twenty broad, in which were twelve looms, and another about half as long with six looms. The famous manufactory of the Gobelins at Paris was founded by two brothers of that name in the reign of Francis I., and was at first limited to a superior process of dyeing. About the middle of the seventeenth century Colbert introduced there the weaving of the tapestry and carpets which have since become so celebrated, and the popularity of which gave a considerable impetus to the taste for such productions in England.

* This entry shows that the word "carpet" was formerly used in a more general sense than at present. Its etymology is, indeed, by no means clear. Some writers regard it as an adoption of the Dutch word "karpet," a floor covering. Cotgrave derives it from the French work "*cairin*, a Turkie carpet; such a one as is brought from *Caire* in Egypt." And Skinner suggests that the Italian *carpetta* may be "from *Cairo* and *tapets*; q. d. *tapes Cairicus seu Memphiticus*." The word "*tapes*" (the root of tapestry) signified, both in Greek and Latin, a carpet or covering for a bed or couch; and "*tapet*," used by Spenser to denote needlework, was also, at an early period, applied metaphorically to foliage, as being the tapestry of the grove. In a similar manner the Elizabethan poets commonly employed the word *carpet* to designate a lawn or greensward.

M DIGBY WYATT DIREXT

F BEDFORD LITH

CARPETS IN THE MEDIÆVAL STYLE DESIGNED BY PUGIN FOR GRACE OF LONDON

LONDON PRINTED AND PUBLISHED OCTR 6TH 1852 BY DAY & SON LITHOGRAPHERS TO THE QUEEN

PLATE CIX.

PRECIOUS BOOK-COVER,

PRESENTED TO HER MAJESTY THE QUEEN BY THE EMPEROR OF AUSTRIA.

The carved furniture manufactured by Messrs. Leistler and Sons, of Vienna, will be remembered by every visitor to the Exhibition of 1851; and especially the Gothic book-case in oak, presented to her Majesty the Queen by the Emperor of Austria. This successful work of art was executed from the designs of Bernardo di Bernardi, architect, of Vienna, assisted by Joseph Kränner of Prague. It contained some exceedingly beautiful and valuable books, bound in a costly and magnificent manner, forming a portion of the Imperial gift. The taste and skill displayed in the binding of these volumes has been somewhat overlooked in the admiration elicited by the book-case which contained them. Our present illustration will, however, it is hoped, do justice to the merit of one of these choice works of art, and may serve to corroborate the statement in the "Official Descriptive Catalogue," that whilst "the manufacture of fancy articles in leather has, of late years, made great progress in Austria, this has been particularly the case in the trade of bookbinding, both in Vienna and Prague, where that branch of trade is conducted on a large scale, both in supplying the internal demands of the empire, and for exportation."

As connected with the subject of our present plate, we purpose adding to the historical and practical notices of bookbinding already given, some account of the manner in which the mediæval manuscripts were bound and ornamented. Produced as those manuscripts were by unwearied skill and labour, the deep religious feeling and love of learning which characterised the middle ages caused them to be decorated in a remarkably elaborate style. The Sacred Volume, in particular, was often bound in velvet and other costly materials, and adorned with gold and silver ornaments of exquisite workmanship, the effect of which was increased by the tasteful introduction of enamels and precious gems. Copies of the Scriptures thus enriched were frequently given by kings and emperors to monastic bodies, and regarded by the latter as amongst their most valued treasures.

Among the earliest instances on record of precious bookbinding,* we may especially notice the famous Durham Book of the Gospels. This was written in memory of St. Cuthbert, by Egfrith, who was made Bishop of Lindisfarne, A.D. 698. Bede informs us that on the death of Egfrith, in the year 721, his successor bound this book "in gold and precious stones." A Saxon "gloss," or interlinear version of the Latin text, was added by Aldred, a priest of Durham, about the year 950; and the manuscript was preserved in the latter monastery till the Reformation, when it was ruthlessly stripped of its jewelled covering. It ultimately fell into the possession of Sir Robert Cotton, and its venerable antiquity, with the beauty of its calligraphy and illuminations, render it one of the most interesting manuscripts preserved in the British Museum.†

In the year 780, Offa gave to the church of Worcester "a large Bible, with two clasps made of the purest gold." About ten years later Charlemagne granted to the monastery of Sithiu a right of hunting,

* The examples referred to in the present article are more fully noticed by Mr. Astle in the "Archæologia," vol. xiii. p. 208; in Warton's "Anglia Sacra;" in Dr. Dibdin's "Bibliomania;" in the Rev. R. S. Maitland's Essays on "The Dark Ages," 8vo. 1845; and in a learned and excellent volume by Mr. F. S. Merryweather, entitled, "Bibliomania in the Middle Ages," 8vo. 1849. The inventories in Dugdale's "Monasticon," abound with references to richly-bound manuscripts.

† Cotton MSS. Nero. D. IV.

in order that they might make of the skins of the deer they killed not only their gloves and girdles, but "covers for their books." In the year 814 Angilbert, abbot of St. Riquier, gave to his monastery, besides 200 other books, "a copy of the Gospels written in letters of gold, with silver plates, marvellously adorned with gold and precious stones." Everhard, count of Friuli, about the middle of the ninth century, bequeathed to his children a Gospel bound in silver, and another in ivory; and Pope Leo III. gave to a certain church a copy of the Gospels so ornamented with gold and precious stones, that it weighed 17 lbs. 14 ozs.

About the year 1000, Godeherd, bishop of Hildesheim, adorned the covers of books with small stones of black, white, red, or variegated hues, cut and polished in the manner of gems; and he employed the children and other dependants of the abbey to collect pebbles for the purpose. Gold and silver bindings are frequently mentioned in the eleventh and twelfth centuries, and it is recorded that, in the year 1133, Nigel, bishop of Ely, was plundered by some of King Stephen's soldiers, and robbed of his own copy of the Gospels, which he had adorned with many sacred relics. This practice of inserting relics, or religious emblems, in the covers of books was not uncommon. As Dr. Dibdin observes, "in the interior of the binding, next to the leaves, there was sometimes an excavation in which a silver crucifix was carefully guarded by a metal door with clasps;" and at a Visitation of St. Paul's Cathedral, in the year 1295, there were found twelve copies of the Gospels, all adorned with silver, some with gilding, pearls, and gems, and one which is thus described: "Textus ligneus, de super ornatus platis argenteis de auratis, cum subtili triphorio in superiori limbo, continens xi. capsas, *cum reliquiis* ibidem descriptis."

The monastic establishment at Ely possessed, at the end of the twelfth century, no fewer than thirteen fine copies of the Gospels, beautifully bound in gold and silver, which William Longchamp, bishop of that see, sold to raise money for the redemption of Richard I. from his captivity,—"pro Regis Ricardi redemptione." Henry de Estria, Prior of Canterbury in 1285, has left a catalogue of the library of that church, which included twenty-five copies of the Gospels. Some of these were in a splendid co-opertoria, or book-cover, of gold and silver, and others exquisitely ornamented with figures of our Saviour and the four Evangelists. To pass over Richard de Bury, bishop of Durham, author of the "Philobiblon," who constantly employed a body of scribes, illuminators, and binders, we may mention a Grael, written by order of Wheathampsted, abbot of St. Albans in the fifteenth century, so superbly illuminated and bound as to be valued at 20*l.* sterling; and William of Malmesbury mentions a co-opertoria, in the formation of which twenty pounds and sixty marks of gold were used.

With the introduction of printing a more ordinary description of bookbinding was necessarily adopted; and it was probably a manuscript of early date which is described as follows, amongst the treasures in the Jewel House of the Tower of London, in the reign of Queen Elizabeth:—"A booke of golde, enameled, clasped with a rubie, having on th'one syde a crosse of dyamounts and vj. other dyamounts, and th'other syde a flower de luce of dyamounts and iiij. rubies, with a pendaunte of white saphyres and the armes of England; which booke is garnished with small emeralds and rubies hanging to a cheyne, pillar fashion, sett with xv. knottes, everie one conteyning iij. rubies (one lacking)." In 1494, Brandt, the author of the "Ship of Fools," speaks of books,

> "Full goodly bounde in pleasante coverture,
> Of damas, sattin, or else of velvet pure."

It is needless, however, to multiply references to the elaborate bindings of former days; but we cannot abstain from adverting to the wholesale destruction of those interesting specimens of art which took place at the time of the Reformation. It is impossible to estimate the extent to which this was carried, or the degrading uses to which the splendid manuscripts were applied. In 1550 Henry VIII. issued an order for the purging of his library at Westminster, directing that all superstitious books, such as missals, legends, &c. should be culled out, and the garniture of the same, being either gold or silver, delivered to Sir Anthony Aucher. Bale informs us that, "A grete nombre of them whych purchased those superstycyose mansyons [the suppressed monasteries,], reserved of those lybrarye bookes, some to serve theyr jakes, some to scour theyr candelstykes, and some to rubbe theyr bootes; some they solde to the grossers and sope-sellers, and some they sent over see to the bokebynders, not in small nombre, but at tymes whole shippes ful." Years afterwards the broken windows of Malmesbury were patched with fragments of the Abbey manuscripts, and the bakers of the town had not consumed all the stores they had accumulated from the same source for heating their ovens.

M. DIGBY WYATT, DIREXT.

F. BEDFORD, LITH.

BOOKCOVER IN CARVED IVORY PRESENTED TO HER MAJESTY THE QUEEN,
BY THE EMPEROR OF AUSTRIA.

LONDON. PRINTED AND PUBLISHED NOVR 1ST 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CX.

GROUP OF OBJECTS IN GLASS,

BY APSLEY PELLATT, W. NAYLOR, AND J. G. GREEN, OF LONDON.

We have had occasion in a previous notice (Plate XVIII.), to draw attention to the beauty of the design and material, as well as the admirable finish exhibited in the works of the above firms, qualities which were eminently preserved in the objects grouped in the present Plate. We also briefly noticed the steps by which the manufacture had been developed and perfected in England; on the present occasion we shall make a few observations on the peculiarities of the Venetian processes, upon which the English, and, indeed, those of the whole continent of Europe, were mainly based.

According to local tradition, the manufacture of glass at Venice is coeval with the existence of the city itself; and a series of decrees and orders of the government of the Republic, commencing at the latter part of the 13th century, prove that the art was carefully promoted until the time when a change in the public taste deprived Venice of her profitable monopoly. During the 13th century the Glass-houses became so numerous at Venice, as to subject the city to great danger by fire, it was therefore ordered by the Great Council, in 1291, that all the Glass-houses should at once be removed from the city to some separate island. Murano was fixed upon for the purpose, and was soon covered with different establishments.

The taking of Constantinople by the Turks, in 1453, drove the skilled Greek workmen thence to Italy, and at that period the glass-manufacturers at Venice learned from the exiled Greeks their modes of enriching their productions by colouring, gilding, and enamelling. In the early part of the 16th century, the Venetians appear to have invented the art of introducing threads of coloured and opaque white (*latticinio*) glass into the substance of the articles they manufactured, forming a beautiful and enduring enrichment, suitable from the lightness of its character to the delicate forms of the objects to which it was applied. The secret of this art was most jealously guarded by the State, and the severest penalties were enacted against any workmen who should divulge it, or exercise their craft in any other country: on the other hand, the masters of the Glass-houses at Murano received great privileges, and even the workmen were not classed with ordinary artizans. In 1602 a gold coin was struck at Murano, with the avowed object of handing down to posterity the names of those who established the first Glass-houses on the island, and from it we learn that they were the following:—Muro, Seguso, Motta, Bigaglia, Miotti, Briati, Gazzabin, Vistosi, and Ballarin. For about two centuries the Venetians contrived to retain their valuable secret, and monopolised the glass trade of Europe; but at the commencement of the 18th century, the taste for heavy cut glass began to prevail, and the trade was dispersed to Bohemia, France, and England, so that the manufacture of filagree glass at Venice was gradually discontinued.

The glass vessels ornamented with white and coloured threads, are formed out of an assemblage of small cylindrical sticks of glass, each about one-eighth or one-tenth of an inch in diameter, and of various colours, disposed by the workmen in a certain arrangement with others of clear glass, as we shall presently describe. The method of making the little sticks of glass is as follows:—The metal being mixed of the desired colour in the crucible, the workman takes up a small quantity of it on the end of his blowing-iron, and rolls it into a cylindrical form, about two or three inches long, on the *marver;* having allowed it to cool a little, he plunges it into another crucible containing clear metal, and again reduces the mass on the marver to a cylinder of about three inches in diameter; this is then heated and drawn out to the thickness that the sticks

are required, and broken up into lengths for use. The process for producing small sticks, containing several threads of coloured glass, is more or less complicated, according to the manner in which the coloured threads are disposed. For the simplest, the workman puts several sticks containing only a single thread, alternated with others of clear glass, either round a cylindrical mould, which is then filled with clear glass, or else encloses them in a covering of the same; a cylinder is thus formed, which, when drawn out, contains threads of coloured glass, disposed in various patterns according to the manipulation used by the workman in drawing out.* When flattened in the subsequent processes, the lines in these sticks produce the effect of zig-zag and other patterns seen in the Venetian glasses.

In order to make use of the prepared sticks in the fabrication of any glass vessel, the workman places a number of them round the inner face of a cylindrical mould, and separated by sticks of clear glass, so as to form any arrangement that may be desired, the whole is then heated so as to be ready to combine with other glass metal. The glass-blower next takes up a bulb of metal on the end of his blowing-iron, and having brought it to the proper form on the marver, inflates it into the mould, which causes all the sticks to adhere to the outside of the bulb, so that the whole can be taken out of the mould, and the assistant then secures the sticks by passing a strip of softened glass round them. The bulb is then heated at the furnace, and worked on the marver until the small sticks are completely incorporated with the mass; the workman next squeezes together the bottom with pincers, so as to bring all the ends of the sticks together in the centre, and proceeds to form out of the bulb any vessel that may be desired in the ordinary way. If the bulb is twisted in forming the vessel, then the coloured lines will take a spiral form, otherwise they will run straight from the top to the bottom, in the centre of which they will appear united. The spiral form was called by the Venetians *ritorcimento*, and vessels ornamented in this manner *vasi a vitortoli*, or *ritorti*. The most elaborate variety of the manufacture practised at the Glass-houses of Murano, was the forming of vessels in two thicknesses of glass, laid over one another in a soft state, and then fused together; by this means the net-work patterns were produced that are seen in many specimens of the manufacture. The coloured threads in one layer were worked into a spiral in one direction, and in the other, in the opposite direction, so that when superimposed upon the first an effect of network was produced. These vessels were called *vasia a reticelli*. There are different opinions as to the exact manner in which this process was effected, and the modern imitations have never entirely succeeded. Many other modifications of these processes were practised at Murano, which our space will not permit us to detail. These delicate and graceful manufactures were superseded by the taste that arose for cut glass;† but the ancient manufacture is still carried on at Venice on a limited scale.

* For a particular account of these, see M. Bontem's "Exposé des moyens employés pour la fabrication des verres filigranés."

† It is generally supposed that the art of glass-cutting was invented by one Caspar Lehmann, who, in the year 1607, was in the service of the Emperor Rodolphus II. as a lapidary. It is, however, sufficiently proved by various articles still preserved in collections of antiquities, that the Greek artists formed upon glass both raised and engraved figures; and although it is probable that pieces of glass may have been moulded like paste,—an art that was very anciently understood,—it is certain that they cut all kinds of ornaments on glass with considerable accuracy in the modern manner. The learned Natter indeed affirms, in his treatise on engraved stones, that the ancients even employed the same instruments as the moderns, and it certainly does appear that they used a wheel which moved in an horizontal direction above the work-table, and seems to have been in most respects similar to the common lapidary's wheel. The ancients also employed diamond-dust for the purpose of polishing various kinds of precious stones, but it does not appear that they were acquainted with the mode of cutting glass with a diamond-pencil. The oldest glaziers, with whose manner of working we are acquainted, used emery with sharp-pointed instruments of steel, and a red-hot iron, by means of which they gave the necessary direction to the rents.

The first mention that is made of a diamond being employed for writing on glass occurs in the history of Francis I. of France, who inscribed the following lines on a window at the castle of Chambord near Blois, in order, as it is said, to intimate to the Duchess of Estampes that he was jealous:—

"Souvent femme varie
Mal-habil qui s'y fie."

It has also been generally imagined that the art of etching on glass, which is effected by an acid, that dissolves silicious earth, was first invented in 1771 by a German chemist named Scheele, but it can be proved that it was discovered as early as 1670 by an artist named Schwanhard, who was celebrated as a glass-cutter, and by the mere accident of some aquafortis having fallen on his spectacles and corroded them.

H.N.HUMPHREYS. DEL.

M. DIGBY WYATT. DIREXT.

F.BEDFORD. LITH.

GROUP OF OBJECTS IN GLASS BY APSLEY PELLATT, W.NAYLOR & J.G.GREEN, OF LONDON.

LONDON PRINTED AND PUBLISHED NOVR 1ST 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE CXI.

JEWELLERY,

BY RUDOLPHI OF PARIS.

For the improvement effected in France in the manufacture of artistic jewellery, by the revival of the mediæval processes of enamel and niello, and the introduction of the highest class of chasing and finish into pieces of silver plate, and by giving to the fanciful taste of the French workmen a more truly artistic direction, the world is greatly indebted to the late M. Wagner, whose talent as an artist has obtained, for the works issuing from his *atelier*, a European reputation.

M. Carl Wagner, whose father was a goldsmith of considerable reputation at Berlin, originally established himself in that city in conjunction with his brother, M. J. Wagner; he conceived, however, that he should find more ample scope for his talents at Paris, where he accordingly went, and associated himself with M. Mansion. He was liberally encouraged by his Majesty Louis Philippe, the Duke of Orleans, the Duke de Luynes, the Prince Soltikoff, M. Rothschild, and other discriminating patrons of art, for whom he executed many works of the highest character, rivalling in boldness and delicacy the finest productions of the great Italian school of jewellery. His most important works were in the possession of these patrons, and also of the King of Prussia, for whom he executed the well-known shield of the Amazons, which for a long time was held to be an old work. He executed a great number of very tasteful small works in coral, pearls, and precious stones, set in elegant borders of ornament; and it is rather remarkable that these very much resemble those very beautiful works executed for Augustus the Strong, king of Saxony and Poland, by the brothers Dinglinger. He also revived and practised the art of mixing and introducing the niello, and his productions even surpassed those of the celebrated Tulaë manufactories.

M. Wagner had amassed a considerable fortune, and had received the honorary distinction of being decorated with the cross of the Légion d'Honneur, but while yet in the prime of life he met with his death by the accidental discharge of his own fowling-piece, which he was carrying, having just returned home from shooting. A short time previous to this accident he had associated with himself M. Rudolphi of Copenhagen, his *chef d'atelier*, and by this gentleman the business is now continued with great success. Many of the works exhibited by M. Rudolphi were executed from models by his late partner, and were specially noticed, as they fully deserved, in the Report of the Jury.

The death of M. Wagner was deeply regretted by both artists and workmen, as he was considered to have given an impulse to working in the precious metals in Paris, owing to which such great perfection has since been attained.

The names of Wagner and Vechte will long be associated with the revival of an improved style in the design, and great artistic skill in the execution of works in the precious metals; and the results of these gentlemen's labours so admirably confirm Mr. Redgrave's able remarks on the theory of the subject,* that we think the latter may be appropriately introduced into our present notice. On the subject of ornamentation Mr. Redgrave says:—"In considering the scope of the ornamentist, it will be evident that in his highest

* "Supplementary Report on Design," appended to the Jury Reports on the Great Exhibition.

aim he is assimilated to the artist, so that it becomes extremely difficult, nay, impossible to separate them, or draw any line of distinction between the one and the other. Thus the beautiful shield, which embodies the description given by Homer of that of Achilles, designed by Flaxman, and exhibited in electrotype in the Fine Arts Court, and that skilful specimen of embossed work, the shield by Antoine Vechte, in the collection of Messrs. Hunt and Rosskell, are at one and the same time works of art and works of ornament. From this high range the occupation of the ornamentist descends by imperceptible degrees; not, as in the case of the artist, through the more and more close *imitation* of Nature, but by selecting from her whatever is beautiful and graceful, irrespective of her individual embodiment of these qualities, and adapting them to give pleasure separately, and apart even from any wish to recall the objects themselves, from which he has sought or obtained them: his effort is to give the most characteristic embodiment of those natural objects (viewed in relation to some peculiar quality, form, or colour, or some particular adaptation required), rather than to imitate; indeed, he departs more and more from imitation as he diverges from the path of the artist to occupy his own separate province as an ornamentist. These are truths to be continually borne in mind, as they constitute the only cure for that false style of ornament, so largely pervading the manufactures of the day, and already so frequently alluded to under the name of *naturalism*, consisting of the mere imitative rendering of natural forms as ornament, and which is nowhere more largely exhibited than in works in the precious metals, and in the affiliated manufacture of plated and Sheffield wares. A great cause of the faults exhibited in these works seems to be, that they have received their design rather from the artist than the ornamentist; thus we have figures, having no constructive connexion with the work ornamented, but rather of the nature of statuettes, perched wherever a ledge or shelf offers accommodation for them: these are, generally, as *imitatively* treated as the material used and the powers of the artist permit, and are applied to inkstands, candelabra, and works of the like kind requiring a purely *ornamental* treatment."

Mr. Redgrave points out, also, the want of adaptation of the design to the material, too frequently visible in works even of the most ambitious character; and then explains the cause, namely, "the separation of the work of the artist and the silver workman: hence, casting and chasing are the means of production here, whilst the foreign artist *himself* uses the hammer and the punch, and beats out with his own hand the creations of his fancy or the inventions of his skill. Casting and chasing in their proper application are means only of producing and perfecting a thing, after the design and model have been executed: even in the hands of the artist himself they are but completing and perfecting processes; the work, as far as the invention goes, is already done before it is committed to the mould, and the chaser does but perfect what the caster has produced with more or less excellence, according to the art-knowledge which he possesses: but by the embossing process, called *repoussé*, the artist himself produces the work by punching the plate of silver on a soft matrix, and continually annealing it in the course of his labours. By this embossing process the mind of the artist is working with every stroke of the craftsman's hammer; and not only does his own hand work out every characteristic quality of the surface, whether of flesh or of drapery, and his knowledge supply every essential detail, but thoughts seem to arise out of the very method and means of working, and each stroke on the punch may prove a suggestion leading to new fancies, or be followed out in more happy details. Even from the accidents of annealing, constantly necessary during the work, the colouring of the metal in the furnace calls up new thoughts, like those which arise in the mind of the poet watching the glowing embers, and the artist at once embodies his new-found fancies. Chasing has none of these suggestions; it only perfects: whilst embossing is to it what etching in the hands of the painter is to engraving. The very means in the one are suggestive in every stage of the progress; while the other is only a more or less complete copy of a previously-designed original. The beautiful works of Antoine Vechte, both the shield before alluded to and the vase representing the story of the Titans (Plate XXVII.), with the beautiful centre-piece, wrought in silver, partly by the same process, the work of Wagner of Berlin, are rare specimens of this mode of working, and its suggestiveness will be at once understood by those who are at the pains to examine them, since they all three have parts only partially finished, such parts remaining, as it were, in the state of sketches, and speaking in this state so strongly to the inventive fancy of the artist, that he who looks into them feels a strong desire to work out the thoughts and fancies they cause to crowd upon him. This mode of workmanship tends also to a unity between the ornaments and the object ornamented, whilst chased work and cast figures, too often necessarily wrought apart, and applied to the group or thing ornamented, have oftentimes a contrary tendency."

M. DIGBY WYATT, DIREXT

F. BEDFORD, LITH

JEWELERY BY RUDOLPHI OF PARIS

LONDON. PRINTED AND PUBLISHED NOVR 1ST 1852. BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE CXII.

SPECIMENS OF LACQUER-WORK FROM CASHMERE.

In the notices appended to plates No. III. and No. XXXII. we made some observations upon the nature of the processes involved in the manufacture of Indian and Chinese lacquer-work; on the present occasion our attention will be confined to the peculiarities of design exhibited in works of a similar character.

It has been admirably remarked by the learned Müller,* that "before the intention of any designer can be expressed in a complete form, that intention must be so embodied as to display a clear recognition of certain *rules*, derived from the observation of mathematical relations, or of organic forms imbued with vitality; unless the work in its execution display such a recognition it cannot be a work of art. It is in obedience to the above condition that, in every period of history, those who have desired to convey their own impressions most forcibly to the minds of others have slightly departed from the direct imitation of nature, substituting for it certain modifications, which are known to artists as conventions. These conventions have gradually been reduced to system, by the labours of each suceeeding generation of students, accumulating the results of the experiments in the treatment of form made by the individuals who preceded them."

No one can examine the patterns engraved in the plate under consideration (remembering that they were intended for the decoration of portable objects), without observing that their designer, in the treatment of the motive—a combination of natural flowers—which serves as their basis, had open to him several modes of representation. He might, in the first place, have covered the whole surface with plants, thrown anyhow together, much as they grow in nature. Had he done so, his ornamentation would have afforded no pleasure, from its author's evident ignorance of those "mathematical relations," which, from their regularity, convey the sense of law and order, and by a knowledge of which he might have been enabled to make the forms of his enrichment harmonise with those of the object he was employed in decorating.

He might, in the second place, have drawn his flowers in perspective, imitating the play of Nature, which permits one leaf or petal to conceal another, or to become foreshortened as it advances or recedes from the spectator; here he would have been forced to assume some one, or even many points of view. Such a mode of treatment would obviously, therefore, have produced distortion, since it would only have been necessary to turn the object round, or to elevate or depress it above or below the level of the points of sight assumed, to make the whole a palpable misrepresentation.

He might, in the third place, have introduced light and shade to assist the developement of his forms and the reality of his imitation of Nature. Had he done this, it would have been requisite permanently to fix the object decorated in one position in reference to the light by which it might be illuminated, so that the shaded sides and shadows projected by the forms of the article might accord with those of the flowers by which it was ornamented. The consequences of such a mode of representation must be at once evident; by removing the object from one side of a window to the other, the whole scheme of projection would have been stultified, since the shadowed parts of the flowers would have supposed the light to be on one side, while those of the box or similar object would have proved it to be on the other.

The artist might, in the fourth place, in the colouring of his ornamentation, have imitated those delicate gradations and air-tints by which Nature teaches the eye to convey to the mind a sense of the distances intervening between the different plans upon which the objects imitated are situated. What would have been the

* "Archaologie der kunst Einleitung zur Theorie."

result? The more perfect the imitation, the less the probability of its ever proving agreeable; since that delicate grey tint, which might satisfactorily indicate that a white flower was twenty yards off, would be evidently absurd if the object decorated with a white flower so tinted were held at arm's length, and it would manifestly be no less absurd to imagine that any two objects painted upon a box a foot cube were five feet or forty feet from one another.

From these few cases it must be apparent how limited, under many circumstances, the artist's power of direct imitation must be, and how important it is that he should rightly understand how nicely those due conditions of conventionality, which are too frequently either misapprehended or overlooked by our artists in the present day, are appreciated and practised by the Indian workmen. Had we not already quoted Mr. Owen Jones's excellent remarks upon this subject, we should have felt inclined to have reproduced them on the present occasion, as they could not possibly have been better illustrated than by the pattern engraved in the plate under consideration. In them may be seen how cleverly an able designer may express in surface decoration the character of any object, without adopting any of those four obvious systems of representation which have been pointed out as so dangerous. With a skill rivalling that of Magna Græcia or Etruria, whose vases are covered with decoration, which assists rather than interferes with their graceful contours, the artists of Cashmere and Lahore have arrived by practice at such an orderly distribution of the forms and lines of their sprays and leaves, as, without sacrificing too much of that negligence which is so graceful in nature, yet serves to apportion the whole in subservience to the forms requiring enrichment; they have adopted such a mode of geometrical projection as best conveys the idea of each flower contrasting its front and its side-view, and where either approach a regular figure, inclining rather to make it tell forcibly than to suppress it; they have also acquired the power of so bringing up the ground of their patterns, allowing it to appear here and there in the body of their flowers, or of treating an outline inclining either to black, white, or gold, as to define the form of every leaf and fibre clearly without employing any positive light and shade; and, finally, they have taken care so to maintain the intensities of the various tints, by alternately deepening an advancing colour, and lightening a retreating one, that they have succeeded perfectly in keeping that flatness of surface which is so essential to the preservation of the form of the object decorated. As a general rule it may be remarked, that the plants most frequently introduced into the ornamental compositions of the Cashmerians are the rose, the pink, and the jessamine, the favourite and abounding produce of their proverbially fertile valleys.

E. POZZI. DEL.

M. DIGBY WYATT, DIREXT.

J. SLIEGH, LITH.

SPECIMENS OF LACQUER WORK FROM CASHMERE.

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PLATE CXIII.

CHOCOLATE CUP IN SILVER,

BY LEBRUN OF PARIS.

Among the many distinguished names which are recorded in the notices of the French Juries, appointed to decide upon the merits of objects executed in the precious metals and contributed to the various national expositions, there are few which were earlier, or more frequently selected for commendation, than that of Lebrun. All, who had an opportunity of observing the beautiful design and refined workmanship of the object now engraved, will readily appreciate the correct judgment which induced the juries of the years 1823, 1827, 1834, 1839, 1844, and 1849, to successively award the bronze, the silver, and the gold medals, together with "rappels" of the two latter, to the maison Lebrun.

The subject of the history of the production of beautiful gold and silversmith's work in France has of late years occupied the attention of many accomplished writers, such as M. Potier, M. Du Sommerard, M. Jacob, M. Ferdinand Seré, M. Delabarte, M. Didron, and MM. the Abbés Texier and Martin, and the mass of interesting and instructive details which have been collected by them merit the serious study of all interested in the subject, either in an archæological point of view, or with regard to the revival of those processes which are now all but extinct, and which in the old times were the pride and glory of every handicraftsman. From such writers we have gleaned a few particulars concerning the developement of the art of the silversmith in France, and we propose in the present notice to trace rapidly the leading points which occur from the earliest ages through the mediæval period, reserving for subsequent consideration the peculiarities of the productions of the Renaissance and later periods.

It is a singular fact, to which France forms no exception, that the personal ornaments of all barbaric races appear to have been almost exclusively of gold, and silver to have been of comparatively rare occurrence. It was generally in connexion with the services of the Church, and in the coinage, that silver first abounded; and the earliest application of art, or even of skilled labour, to the productions of such objects in France was introduced by the celebrated patron of the gentle craft,—St. Eloi. This rare and truly great man, whose life is well known through the writings of his disciple St. Ouen, was successively a workman, a simple priest, a bishop, and ultimately minister to his sovereign, King Dagobert; who continued to Eloi that esteem and patronage which he had already gained from his father, Clothaire II. Eloi executed many works for the king, amongst others that of engraving and stamping the coinage, as is attested by the fact that his name appears on the reverse of the five types of the gold sol, which are almost the only authentic remains of the numerous works of the patron saint of the French goldsmiths. Four of these coins belong to the reign of Dagobert I., and the other to that of Clovis II. Eloi continued his labours at the goldsmith's art even after he had attained his high ecclesiastical position. We are told that the châsses of St. Genéviève, St. Germain, St. Martin at Tours, and St. Denis at Paris, owed to him their origin. On the latter shrine he seems to have bestowed his work with a lavish hand, so as to render it the greatest ornament of France. The pulpit, the cross, and the frontal of the altar, were monuments of his skill and piety. But his most important work was the establishment of the monastery of Solignac, near Limoges; instituted for artist-monks, and more particularly devoted to the art of the goldsmith. Thillon was the second abbot, and under the direction of this able pupil of the

founder a great number of objects were executed by the community for the service of the Church. Solignac was founded in 631, and the original charter, with the signature of the pious founder, still exists. Eloi also founded the convent of St. Martial, in the Isle de Paris, where under the first Abbess St. Aure rich embroidered vestments for the Church were worked by the three hundred nuns.

It was, doubtless, from these artist-monasteries that Charlemagne, about a century later, was enabled to procure artists for his great works; and his sword and crown, which alone have come down to us, are as likely to have been of French as of Italian or Byzantine manufacture. The only other work of art in the precious metals that remains of the period of the Carlovingian dynasty is the cover of the Bible of Charles the Bald, which consists of two carved ivory tablets, framed in silver and filagree, set with precious stones. The goldsmith's work of this period, and for nearly three centuries subsequently, is distinguished rather for the costliness of the gems, with which it is loaded in barbarous profusion, than for its design and art-workmanship.

Several bishops of Auxerre, during the ninth century, enriched their cathedral with costly gifts, of which, however, we have no description beyond the names of the articles. The shrine which Hincmar, bishop of Rheims, caused to be made for the church of Remi in 852, was surrounded, we are told, by twelve figures of bishops. Perhaps the most important work of the goldsmith's art in France during the tenth century was the altar-dossel which Bishop Seguin presented to the Cathedral of Sens, in the year 990, and which was preserved until 1760, when it was melted down by Louis XV. to meet his exigencies. From a drawing then taken we learn that this work contained numerous figures, which were all beaten up out of thin plates of gold. King Robert endeavoured to propitiate the clergy by rich presents, the most important of which were executed by Odoram, a monk of Dreux, who was no doubt, one of those artist-canons so common in the cathedrals of that time. The monk Theophilus, whose writings are generally supposed to be of this period, gives most minute directions for the fabrication of various articles of plate for the service of the Church.

In the twelfth century, the most remarkable works are those which the well-known Abbot Suger presented to the Abbey of St. Denis, and he has fortunately left us some account of these in his work "De Rebus in Administratione sua Gestis." Our space will not permit us to enumerate all the works there described, some of which are preserved in the collections of the Louvre and the Bibliothèque National. But Suger's great ambition was to construct a crucifix of gold that should surpass the cross attributed to St. Eloi; and, to accomplish this, he employed six or seven Lorraine workmen for about two years, and used a vast quantity of jewels. Other works of this period are figured by Du Sommerard in his Atlas, and are preserved in the treasuries of the cathedrals of Rheims, Chartres, Troyes, Toulouse, and other cities.

During the long reign of St. Louis, 1226 to 1270, all the arts made great progress. It was in the latter part of this period that Etienne Boileau, Provost of Paris, composed his celebrated "Livre des Métiers," which, at the eleventh chapter, treats of the gsldsmiths, and gives a curious insight into the mysteries of the craft. Among the actual remains of the thirteenth century we may mention the gold chalice of St. Remi, from the cathedral at Rheims; the châsse of St. Taurin at Evreux; that of St. Romanus at Rouen; the clasp of St. Louis, preserved in the Louvre; besides others in the trésors of the various cathedrals.

In the early part of the fourteenth century the finances of the country were exhausted by the wars with England, so that the goldsmith's trade was not in a flourishing condition; but when peace had been restored by Charles V., we find the king and his brothers in possession of a vast amount of jewellery and plate. The principal objects on which the skill of the artist was displayed are the ewers, hanaps, salt-cellars, fountains, and, above all, the *nefs*. The latter was a small casket in the form of a vessel, and contained the drinking-cup, knife, fork, &c., of the prince. The articles for sacred uses comprised crosses, chalices, burettes, clochettes, bookcovers and clasps, censers, and reliquaries, which at this period often were in the form of statues. We may mention the silver gilt statuette of the Virgin given by Jeanne d'Evreux to the Abbey of St. Denis, in 1339; also a similar statue, of better execution, in the trésor of the cathedral of Rheims; the mounting of the famous cameo of Jupiter, once belonging to the Sainte Chapelle, &c. During the reign of Charles VI. and of his son, the wars again caused much valuable work to be melted down, but the trade soon revived after the return to Paris of Charles VII., in 1438. Before the end of the century, however, it was more particularly confined to articles of jewellery, and we propose to trace that particular branch of the art in our next notice.

PLATE 113.

P.H. DELAMOTTE, DEL. M.DIGBY WYATT, DIREX.T F. BEDFORD, LITH.

CHOCOLATE CUP IN SILVER BY LEBRUN OF PARIS.

LONDON, PRINTED AND PUBLISHED NOV.R 15TH 1852. BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXIV.

STAINED GLASS WINDOWS,

BY LUSSON AND BY GERENTE OF PARIS.

The first mention of the employment of coloured glass in France* is found in the historian of St. Benigne of Dijon, about 1052, who mentions an antient "vitrail," representing St. Paschasius, as existing in that church. He assures us that it was taken from the old church restored by Charles the Bald; but, without relying entirely upon the latter part of his statement, we may safely conclude that this figure of St. Paschasius was as old as the ninth century.

Although several fragments of coloured glass of the middle of the twelfth century still exist in France, we may pass on to the most important work of that period; viz. the windows of the abbey church of St. Denis, designed and executed under the immediate superintendence of the Abbot Suger, who tells us, in his account, "De rebus in administratione sua gestis," that the first window executed contained the root of Jesse, and that a number of skilful artificers of various nations were employed upon the work. Of all these windows, two only remain; the design of which consists of a double row of medallions and rosettes upon a deep blue diapered ground—the drawing is rather coarse, and the figures ungraceful.

This work of Suger's appears to have given an immense impetus to the art, for a little later we find Theophilus praising the "precious variety of windows" in France. During the thirteenth century a great number of very important works in stained glass were executed, among which we may mention those at Poitiers, Sens, Chartres, Paris, Rheims, and Bourges. All of these have been more or less illustrated by the French antiquaries, and they appear to be very similar in general arrangement. Thus the windows of the chapels and aisles generally contained a series of subjects, illustrating some legend or parable, in small medallions upon a deep blue ground, surrounded by an elaborate border; those of the clerestory were filled with single figures, often of colossal size, representing personages from the genealogy of our Saviour, prophets and sybils, or benefactors of the church. The lowest compartment is frequently devoted to a representation of the trade of the guild, at whose expense the window was executed.

Probably one of the most complete examples of the glass of the middle of the thirteenth century is that of the Sainte Chapelle at Paris. There the windows are large, and they are consequently filled with dark and rich glass in order to subdue the light. According to Mr. Poynter† there are about eight hundred subjects still remaining in these windows, containing from two to three thousand figures. The drawing is good, and certainly superior to that exhibited in works of the contemporary English school; the faces are expressive, and the drapery well cast.‡

* The early French historians frequently allude to the glazing of church windows. Thus Gregory of Tours relates that a soldier entered the church at Brionde by breaking one of the windows; and we learn from the poems of Fortunatus, bishop of Poictiers, that Gregory restored the glass of his own cathedral of St. Martin at Tours; and again, in 655, the cloister of Jumiéges was filled with glass by the care of St. Philibert, its founder. The historian, however, makes no allusion to coloured glass, and we must therefore conclude that at that early period the glazing consisted only of thick glass, of a greenish colour, leaded together in ornamental patterns. Several examples of this description are still to be found in France, though of rather later date, and one or two have lately been published by the care of M. Didron.

† See "Engineers' and Architects' Journal," vol. ix.

‡ M. Lusson exhibited a copy of one of the lights in the gallery, containing the stained glass in the Great Exhibition; and some of the original work, probably abstracted when the chapel was used as a record office, is to be seen at Wilton Church, Wilts.

The elaborate medallion windows were generally reserved for the larger churches and cathedrals, where there was a superabundance of light. In the smaller edifices their place was supplied by the *grisaille* windows, or, as they are sometimes called, *entrelacs*. These are not unlike the contemporary pattern-windows of our own country; the principal difference being that the leading lines are straight and interlacing with one another, while in the English examples they are generally in curves. St. Urbain of Troyes, and several of the cathedrals, contain specimens of this work.

The figure and canopy windows seem to have made their appearance in France rather earlier than in England; in these the donor and his trade, if he had one, were frequently introduced below the principal figure, the pedestal being represented hollow, and peopled with small figures. Much more shading was used than in the preceding periods, and there is a falling off in the drawing. Sometimes, however, the effect of a grisaille window was obtained by making both the canopy and figure in white glass, a little colour being used in the background only. A specimen of this treatment, the gift of Guillaume de Cantiers, remains in the Cathedral of Evereux. In the fourteenth century, the window divided into a number of small compositions superseded the old medallion arrangement, and was similarly employed in the lower parts of the church; the subjects are piled one upon another, with occasionally a very flat canopy, or narrow line of white, between them for the purpose of separation.

The fifteenth century presents us with little change in the general arrangement of the figures and subjects; the features are feebly and indistinctly made out, and the figures are influenced by the prevailing style of drawing. The glass, although producing a pleasing effect, is much thinner, especially the blue, than that of the thirteenth century. An immense number of windows were executed during this epoch, and specimens are to be found, more or less perfect, in almost every large church in France. St. Ouen, at Rouen, has some fine figures, upon a white quarry ground, in the clerestory windows; and good examples of the glass of this period will be found in St. Gervais at Paris, and Nôtre Dame at Chalons-sur-Marne.

Many improvements were introduced into the art at the epoch of the Renaissance. The first masters were employed to make cartoons; enamel was used to give depth to the colours without losing the richness, and much more white was employed. Many of the windows are very little more than grisailles, as those designed by Jean Cousin for the Sainte Chapelle at Vincennes: one of these, representing the angel sounding the fourth trumpet, is admirable both in composition and drawing. The Cathedral of Auch also contains some exceedingly fine examples of the work of Arneaud Demole; Beauvais also possesses a great deal of the glass of this period, especially a very fine Jesse window, the work of Enguerand le Prince; the heads are grand, and the poses of the figures call to mind the works of Albert Durer.

The grisailles which ornamented the windows in the houses of the nobility, and even of the bourgeoisie,* although small, were executed with an admirable delicacy, and in drawing and grouping leave little to be desired.

Towards the end of the sixteenth century the art began to decline, the numerous glass-painters found themselves without employment, and the celebrated Bernard de Palissy, who had been brought up to the trade, left it to engage in another presenting greater difficulties, but which eventually secured him the highest reputation. To him, however, we are indebted for the charming grisailles representing the story of Cupid and Psyche, from the designs of Raphael, which formerly decorated the Château of Ecouen, the residence of his great patron, the Constable Montmorency. Le Vieil, the last of the glass-painters, describes how he was compelled by the chapter of Nôtre Dame de Paris to dismount the few remaining figures from the clerestory, under the pretence that they obstructed the light. After the Revolution, Napoleon wished to restore the windows of St Denis, and applied to the manufactory of Sèvres; the productions of which, however, were not successful, and it was reserved for MM. Gerente, Lusson, Lafaye, and others, to accomplish what the establishment of Sèvres had in vain attempted—the perfect restoration of the art of working in coloured glass. The space will not permit us to allude to the admirable works of M. Lusson in the Sainte Chapelle, at Paris, for which M. Gerente also made some excellent studies, but was unfortunately prevented by his premature death from carrying them out.

* These roundells in grisaille appear originally to have been a German invention.

SPECIMENS OF STAINED GLASS BY LUSSON & BY GERENTE OF PARIS.

PLATE 114

PLATE CXV.

PENDANT LAMP IN SÈVRES PORCELAIN.

The publication of the present plate affords us an occasion for returning to the subject of this royal manufactory, of the present admirably conducted state of which our representation furnishes such satisfactory evidence. We have already had occasion to allude to the very valuable services rendered to the advancement both of the theory, practice, and history, of the ceramic arts by M. Brongniart, who for so many years occupied the distinguished post of director of the institution in question, and we have now, in noticing the present practice of the workshops, only to observe that for many of the most ingenious processes, and for the most subtle formulæ of compounds, France is indebted to the labour and research of that accomplished and indefatigable student.

The royal manufactory has been in many ways fortunate in those who have been officially connected with it; since what the learning of Dr. Klemm has accomplished as an historian for the Dresden Museum of Porcelain, the energy of M. Riocreux has effected for that of Sèvres, and the chemical improvements introduced by M. Brongniart have been admirably carried out and perfected by the late talented and universally respected director, M. Ebelman, whose loss must long be felt in that establishment.

Having thus acknowledged the sources from whence the details of the majority of the processes now in common use have been derived, we shall proceed to offer a short notice of their nature. We have mentioned in a former notice (Plate XXXI.) that since 1805 the *porcelaine dure* only is manufactured at Sèvres, and all the objects in the Great Exhibition were of that description. The usual proportions of the "slip," or clay, as prepared for the modeller consist of,—

Kaolin (China clay)	48 parts
Sand separated in the process of washing the clay . . .	48 „
Chalk	4 „

The "slip" is brought into a very liquid state in order to ensure the complete mixing of the ingredients; it is therefore necessary afterwards to reduce it to a more solid consistence, which is effected either by heating it, so as to evaporate the water, or by pouring it upon plates of gypsum, which absorb the moisture; or again, by squeezing out the water in presses. All the materials employed in the manufacture of porcelain must be reduced to a state of very fine powder, and it is essential that the particles should be as nearly as possible of the same size. Much difficulty is experienced in separating from the kaolin the fine particles of mica, with which it is mixed in the pits. By mixing the clay with water, and passing the mixture through sieves, much of the mica may be separated; but a considerable portion passes through with the pure kaolin. It is considered that the great excellence of the porcelain of China and Japan is partly owing to the purity of the kaolin there found from such particles of mica. When sufficiently solid, the "slip" is passed through the mill, and is then ready to undergo the various operations of turning, moulding, and casting, by which, either singly or combined, all the objects must be produced. The ornamental parts, as handles, &c., are cast separately, and afterwards attached to the object. The vessels thus formed, after being baked, are termed "biscuit;" and the material in that condition is opaque, porous, and absorbent. A liquid glaze being prepared, of felspar ground very fine, and mixed with a little alkali, the articles in the state of "biscuit" are dipped into it, when the water is absorbed by the body, and the solid materials remain on the surface. Very careful manipulation

is required in the process of dipping the "biscuit," in order to insure uniformity and purity of colour in the glaze. When again dry, the ware is exposed to the intense heat of a second firing in the glazing kiln, from which it should come out of a milky white. In this process, the glaze penetrates and vitrifies the whole mass, which thus unites with the softer matter so completely, that the glaze does not form a mere coating upon the body, but appears like the surface of a stone polished by the lapidary. This homogeneous texture of the substance is essential to prevent its cracking from sudden changes of temperature, but the process is one of much hazard; for if the firing is prolonged beyond the critical moment when the vitrification is effected, and the surface has become bright, the ware will melt.

The articles are not openly exposed to the fire in the kiln, but are placed in cases called "seggars," which, from their importance in the manufacture of porcelain, deserve a brief description. They are made of plastic clay, crushed quartz-sand, and the ground fragments of destroyed "seggars," and are generally in the form of shallow cylinders. Various modifications have been introduced to effect the objects, viz. economy of space, firmness of support, and the regular distribution of heat to the enclosed pieces of porcelain. Owing to the different qualities of the clay, as found in separate localities, the duration of "seggars" varies considerably; at Sèvres they will stand fifteen or twenty firings, while at Berlin they seldom endure more than two or three; and at Meissen more than twenty per cent are lost in the first firing.

It is the practice in all important porcelain manufactories to deduce the best proportions of the ingredients for the "slip" from the analysis of specimens of porcelain of known good quality. For as all the ingredients employed by the potter are of the most permanent nature, the only substance dissipated by the firing process is the water; consequently it is easy to determine by careful analysis the exact materials that have been employed. At Sèvres the standard proportions thus arrived at are:—

Silica, 58 grains; Alumina, 35; Lime, 5; Potash, 2. Total, 100 grains.

To maintain this standard, constant analyses are required of the different substances employed. The mean composition of the best glaze, as given by analysis, is,—

Silica, 73 grains; Alumina, 18; Potash, 9. Total, 100 grains.

This forms, in fact, a true glass, which flows into all the pores of the body.

The colours used in the enamel painting are all composed of metallic oxides, ground up with a "flux," which when fired forms the vitrified glaze. The flux most commonly employed consists of six parts of red lead to four of borax and two of flint.

Most persons are so accustomed to consider the excellence of the productions of the Sèvres manufactory as entirely unrivalled, that they would be surprised to find numerous specimens of English work preserved there in the museum as valuable examples for imitation, both in design and material. Mr. Cooke Taylor, in a report on the productions of this establishment,* says: "On closely examining the collection at Sèvres, it will be found that the best specimens of earthenware, particularly of articles designed for daily use, are English productions; but, however gratifying such a conclusion may be to our national pride, it is counterbalanced by the mortifying reflection that we have to visit France in order to learn the history of one of our own national manufactures." Some of the articles thus alluded to were manufactured, it appears, by the Mintons as early as 1800, for his Majesty George III. In speaking of the comparative state of porcelain manufacture in England and France, Mr. Taylor says: "We are disposed to yield the palm to the French enamelled vases and to the table decorations, as distinguished from table-services; but we must deny the superiority they claim for their dinner and tea-services." And farther on he says: "In France, we think that the ceramic art, if not positively retrograding, at least is stationary, and very barely keeps its ground; in England, there is no art which exhibits more unquestionable signs of progress." Since the date when the above was written, we think there can be no doubt that such progress has actually been made as to more than realise the most sanguine expectations; and it may even, perhaps, be doubted whether the superiority of the Sèvres manufacture, in the size and exquisite colouring of their largest vases, is not in great measure owing to the circumstance that the price at which such articles can be disposed of will not repay the cost of their production, so that they are not likely to be undertaken by individual manufacturers depending solely on their own resources.

* In the "Art-Journal" for 1847.

H. PIDGEON, DEL. M. DIGBY WYATT, DIREXT. F. BEDFORD, LITH.

PENDANT LAMP IN SEVRES PORCELAIN.

LONDON, PRINTED AND PUBLISHED NOVR 15TH 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXVI.

PATTERN OF A CHINTZ,

BY JAPUIS AND SON OF PARIS.

The specimen of French chintz which we now engrave is a favourable example of the taste and propriety of design bestowed by our Continental neighbours upon articles which, in our own country, have long been characterised by an absence of that essential quality. The draperies of printed and glazed cotton known by the name of chintz* have, indeed, too often exhibited the most flagrant and glaring improprieties; as Mr. Owen Jones observes, "with roses in violent contortions over the sinuosities of our furniture, or broken in twain by the folds of our curtains."† Fortunately our Schools of Design are slowly, but surely, diffusing sounder and better principles; and the gentleman whom we have just quoted, amongst other efforts in the cause of art-education, has applied his talents to the production of designs for textile fabrics, such as must tend to supersede the abominations to which we have been hitherto accustomed.‡

We have in former articles pointed out, somewhat in detail, the exquisite muslins of Dacca, as illustrative of the cotton manufacture of the East; and we may avail ourselves of the present opportunity to indicate, though necessarily in the briefest and most general manner, some of the more striking features of that great branch of industry which gives employment to so large a proportion of the labour and capital of the United Kingdom.

It has been observed by Mr. Bazley, the President of the Chamber of Commerce at Manchester,§ that the East India Company were steady importers of cotton manufactures till the close of the eighteenth century. Chintzes, muslins, and calicoes were brought from the East Indies, and that useful fabric known as nankeen was imported from China. About that time, however, the increasing production of manufactured goods in England greatly diminished the profits of importing of such articles. Perhaps the earliest manipulation of cotton in this country may be traced to the simple conversion of the raw produce of Turkey, the Levant, or Italy, into candlewicks.

From the commencement to the middle of the eighteenth century the greatest activity was displayed in the domestic manufacture of cotton. The weavers, however, were entirely dependent upon the rustic spinning-wheel for their supplies of yarn, and were frequently compelled to suspend their operations from that cause. This difficulty led to the introduction of spinning-machines. Wyatt and Paul, in the year 1730, invented a mode of elongating cotton-wool by rollers, in the operation of spinning; but, as Mr. Bazley observes, "the useful and beneficial maturity of the principle was certainly developed by Arkwright, who patented his process in 1767; and having constructed his machine called the water-frame, for spinning with rollers, he applied it most satisfactorily to the production of 'water-twist,' which was used for warps instead of linen yarn. In the same year, Hargreaves completed his very important invention of the 'spinning-jenny,' a machine

* *Chintz* is a word of Hindoo or Persian origin, denoting spotted or stained. The gaily-coloured prints so called, which acquired great popularity in the reign of Queen Anne, were chiefly imported from the East Indies.

† See a design for Chintz by Mr. Owen Jones, in the "Journal of Design," vol. vi.

‡ Lecture on "Colour in the Decorative Arts."

§ Lecture on "Cotton," delivered at the Society of Arts, in the presence of H.R.H. Prince Albert, on the 31st of March, 1852. This admirable discourse has furnished us with the leading facts mentioned in the present article.

admirably adapted to spin the weft yarn requisite for the shoot of the warps spun upon the water-frame. Thus were simultaneously developed two most valuable pieces of machinery, whereby the growing demands of industry could be satisfied. About the same time the cleaning, carding, and preparation of cotton wool derived great advantage from many curious and opportune contrivances." Great and rapid indeed was the progress of mechanical improvements, and most powerful the impetus derived from the developement of the mighty power of steam by Watt and his successors. Crompton, in 1787, invented the 'mule,' which combined the action of the water-frame with that of the spinning-jenny, so as to produce yarn suitable for the manufacture of the finest muslin and lace.

Calico-printing was established in London by Mauvillon, a Frenchman, at the latter end of the seventeenth century, the use of the copperplate being afterwards introduced there by Nixon. In Lancashire the art was not introduced till about a century ago; but through the energy and enterprise of the great local manufacturers, and the successive improvements in machinery, it is now so extensively practised, that one-seventh of all the cotton spun and manufactured is devoted to printed goods. The admirable results and processes of block and cylinder printing we shall take occasion to notice in a future article.

Our limits will not allow us to detail the numerous purposes to which cotton is applied, both spun and woven, singly and in combination with other materials. Even after the spinner and the weaver have used all the fibres they can make available, the waste which remains is applicable to the manufacture of paper, adapted even for letter-press printing. Although machinery would fail to convert the cotton of Dacca into yarn so fine as that produced by the practised skill of the Hindoo spinner, a much finer thread is produced from American cotton in this country. The Indian yarn is never finer than No. 400, but lace has been made at Nottingham from No. 600 yarn; and, as an experiment, a thread bearing the number 2000 has been produced in this country, of which a single grain in weight would extend to the length of 960 yards.

In the first five years of the eighteenth century the average annual consumption of cotton wool in Great Britain was about one million pounds weight, and the number of work-people, of all ages and classes, employed in the manufacture did not exceed 25,000. During the year 1851 the consumption of cotton was no less than 760,000,000 pounds; the actual number of workers employed being upwards of 1,250,000, amounting with the families dependent on them to not fewer than 3,500,000, or nearly one-eighth of the whole population of the United Kingdom. The parties engaged in the manufacture contribute more than 12,000,000*l.* sterling per annum to the taxes, or one-fourth part of the whole national revenue. The exports of cotton goods in 1851 amounted in value to upwards of 30,000,000*l.*

Marvellous as the progressive increase of the English cotton manufacture has hitherto been, it is not less extraordinary to note the indications of its further advance. Mr. Leonard Horner, the inspector of factories, reports that in 1851 no less than seventy-three new cotton-mills, with an aggregate of 2064 horse power, were built or set to work in the Manchester district. In old establishments additional power to the extent of 1477 horses was introduced during the same period, together furnishing employment for 14,000 fresh hands. In the present year, the extension of the trade has been even more remarkable.

These significant facts give rise to the important question, From whence is the necessary supply of raw material to be obtained? In 1851 we imported from America 1,393,700 bags of cotton; the total imports, foreign and colonial, being only 1,727,400 bags. But we learn that the supplies, which Mr. Bazley characterises in the strongest terms as "limited and confined," are now falling into the hands of speculators; and the anxiety which that gentleman expressed in March last with regard to the future supply of cotton has been again recently urged upon the attention of the public by the metropolitan press. Unquestionably the best remedy for the anticipated evil would be the increased cultivation of cotton in the British colonies; and as the first small imports from America date only from the year 1787, though the crop now yields nearly 30,000,000*l.* sterling to its cultivators, it may be fairly contended that similar results might be obtained, by the adoption of judicious means, in the East Indies, the West Indies, Australia, and Port Natal. In furtherance of this important argument, the gentleman, to whose remarks we have been so much indebted, adds, that a tract of country of no greater extent than the county of York, would, if of suitable soil and in a genial climate, produce more cotton than is required for the present consumption of Great Britain; and, moreover, that specimens of as good and fine cotton, as were probably ever grown in any country, have actually been produced within the walls of a Manchester spinning-factory.

H. RAFTER, DEL. M. DIGBY WYATT, DIREXT. F. MORAS, LITH.

CHINTZ PATTERN BY JAPUI & SON, OF PARIS.

LONDON. PRINTED AND PUBLISHED NOVR 15TH 1852. BY DAY & SON LITHOGRAPHERS TO THE QUEEN.

PLATE CXVII.

PORTION OF A SHIELD EXECUTED IN SILVER BY VECHTE,

FOR HUNT AND ROSKELL OF LONDON.

In the earliest ages in every country, so long as hand-to-hand combat existed as the customary form of warfare, it was the aim of even the most uncivilised warrior to convert that, which constituted his defence, into an object calculated to intimidate his antagonist. Hence it is that the shields of the South Sea Islanders, of the Tartars, of the Norsemen, of the Goths, of the earliest Greeks, of the Saxons, and even of many of the knights of the Middle Ages, and of the Chinese of recent times, were covered with representations of hideous divinities thirsting for blood, or fearful conflicts in which the past victories and cruelties of the chief or his tribe were set forth with every conceivable detail of horror. The great prototype of such a form of enrichment, and the propriety of its connexion with the heroic state, may be found in the fable of the shield of Perseus.

In all those cases, in which men were associated in some common cause, the number and strength of the army was found to act quite sufficiently potently upon the imagination of the adversaries, and it became unnecessary to reproduce the frightful images which gave each individual chieftain so terrible an aspect. The decorations of the buckler in a secondary state of civilisation were therefore for the most part simply distinctive, for purposes of recognition; or devotional, as indicating the faith of the bearer. To the former class we are indebted for the introduction of heraldry, and to the latter for works such as those described by Homer and Virgil, and for such as were frequently employed in the Crusades and other religious wars of the Middle Ages. Of all the objects, upon which the toreutic skill of the ancients was exercised, there were none regarded as of higher importance than the weapons of the Argive captains. In war, the buckler of beaten bronze variously coloured, enriched with gold and silver ornaments, and covered with representations of gods and demigods, served at once to protect and to designate the leaders—in peace, suspended over the couch, it served as an ornament, of which its proprietor was justly proud. The elaborate descriptions of the shields of Achilles and of Eneas will at once occur to the reader's memory. In mediæval times the shield attested the ruling passions of the knight, and in its legend or device betrayed his greater or less affection for religion, love, or combat. As civilisation and learning advanced, and the age of chivalry passed away, armour in a great degree ceased to be employed for personal defence, and served only for parade and the display of the taste or magnificence of the nobles. It was during the period of the revival of the polite arts, that about the courts of the great Italian princes were congregated many skilful artists whose whole life and energies were devoted to the elaboration of magnificent suits of armour destined to be worn only upon the highest and most stately occasions. Of all such objects, those upon which the greatest amount of labour was invariably bestowed, were the casque and the shield; and in the Ambras collection at Vienna, and in that of the Zwinger at Dresden, such a series of specimens have been collected, as attest most fully the perfection to which the art of metal-working was brought in their execution. The example which had been set by the Gonzagas, Farneses, Medicis, Dorias, and other patrons of the arts in Italy, of converting into objects of beauty what had once served only for absolute use, was speedily followed in other countries;

and the armourers of Spain and of Augsburgh very shortly rivalled, though they never equalled, the great Negroli and other art-workmen of Milan and Ferrara. It is difficult to find any large collection of sketches of the old masters, which does not exhibit at least two or three drawings of such objects, attributed to men such as Giulio Romano, Polidoro da Caravaggio, Primaticcio, Franco Bolognese, or Pellegrino Tibaldi. Many of the magnificent shields of repoussé work, covered with the richest damascening, such as that in the possession of her Majesty the Queen, have been assigned to Benvenuto Cellini, but apparently on insufficient grounds; since it is not only probable that, had he executed such works, he would have made mention of them in his writings; but there is no reason for doubting that the workmen of Milan and Augsburgh were equal to the production of any amount of exquisite manipulation, the designs being made for them, not only by artists of the highest eminence, but by others such as the "Petits Maîtres," whose attention was almost exclusively given to the composition of the art-manufactures of the period, on the acquisition of which the rich families of Nuremburg, Augsburgh, Cologne, Italy, France, Saxony, and the Low Countries, lavished enormous sums of money.

During the last century the bucklers of the Renaissance served as models for salvers, and many a design, which now figures in the shape of a piece of old plate on the sideboard, once served to decorate the shield which was borne upon grand occasions on the arm of some prince or elector.

In modern times many revivals of the old decorated shields have been attempted. Those, in which the antique has served as the basis of the composition, have engaged the attention of several of the most eminent artists; and the highest excellence has been attained by no less a man than the immortal Flaxman, in his well-known shield of Achilles. Had the unfortunate sculptor Pitts lived to complete his composition of the buckler of Eneas, from the description of Virgil, he would unquestionably have produced one of the finest works in metal ever executed. Schwanthaler, the great Bavarian, bestowed much thought and study on a shield, representing the story of Hercules, the finest copy of which is now in the possession of his grace the Duke of Devonshire; and Professor Widnmann of Munich, adopting the general lines of Schwanthaler's composition, has most successfully wrought out the whole into an illustration of the Olympian theogony.

In revivals, however, of the finest bucklers of the Renaissance period, no man has ever laboured more successfully than M. Vechte, by whom the object engraved was executed. So profoundly has that gentleman studied, not only the general principles of composition, but the very trick and method of the processes of workmanship as well, that more than one European collection of notoriety exhibits, as genuine specimens of antiquity, objects produced by his dexterous manipulation.

The theme of M. Vechte's composition is essentially English, and may be regarded as an apotheosis of Milton, Shakespeare, and Newton. In the centre of the shield its umbo will be formed by a beautiful figure of the genius of the Arts and Sciences modelled in the round. In the spandrils between the principal subjects are represented allegorical figures of Astronomy, Poetry, and the Drama; and in the outer margin incidents relating to the subjects of the principal compositions.

In the one compartment, Milton is represented dictating to his daughter his poem of "Paradise Lost," inspired by the genius of Religion and Poetry, with the emblems of the torch and the lyre. Crouching behind a shield, is Satan,

> "* * * Horror and doubt distract
> His troubled thoughts, and from the bottom stir
> The hell within him."

Beneath the forbidden tree is shown the disobedience of our first parents, when,

> "* * * From the bough she gave him of
> That fair enticing fruit with liberal hand."

The "subtle serpent" is coiled round the stem, and the artist has introduced another genius of evil amongst the branches. On the border is represented the battle between Abdiel and Satan; the angel Raphael cautioning our first parents against their enemy; and their expulsion from Eden. In another compartment Shakespeare is represented seated in a vessel of immortality floating on the river of life, attended by Apollo and Minerva, who points out to him the vices of humanity. On the side of the vessel are illustrated the seven ages of man. The subjects on the iron border are from Hamlet. In the third compartment, Newton is shown reclining on a globe, accompanied by figures of Time, Truth, and Wisdom, who appear to rebuke two other crouching figures, typical of Ignorance and Superstition. On the right is a figure of Earth instructing her children, who are identified with Europe, Asia, Africa, and America. In slight relief above, is shown the system of planetary attraction which he propounded.

VECHTE, DEL.

M. DIGBY WYATT, DIREXT.

J. A. VINTER, LITH.

PORTION OF A SHIELD IN SILVER BY VECHTE FOR HUNT & ROSKELL

LONDON. PRINTED AND PUBLISHED DEC.R 1ST 1852. BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXVIII.

JADE-STONE VASES FROM CHINA.

Few objects in the Chinese department of the Great Exhibition were more interesting than the vases we now engrave, alike from the beauty, singularity, and extraordinary value of the material, and the graceful forms and elegant ornamentation to which it was made subservient.

The sculptured tortoise in jade-stone in the British Museum must be a familiar object to all our readers, but so little is generally known of the properties and uses of this rare and precious material, that we are induced to hope the following information may not be unacceptable. In presenting it to our readers, we are happy to acknowledge the courtesy of Mr. J. W. Dudgeon, of Pall Mall, who has kindly aided us by scientific researches, and by the results of his personal observation in China.

Dana, in his "System of Mineralogy," classes jade among anhydrous silicates of lime and magnesia, and describes its component parts as being—silica, about one-half; lime and magnesia together, about one-third; alumina, one-tenth; with a small quantity of oxide of iron. In colour it varies from a dark green, through all the lighter shades, to a bluish white and grey; the rarest specimens being of a translucent milk-white, resembling in appearance the common opal of the East. The author of the article "Mineralogy," in the "Encyclopædia Britannica," divides this substance into common jade-stone and a sub-species called axe or hatchet-stone. He states that it may be melted by the blowpipe into a kind of semi-transparent white glass. The prominent qualities of jade are a degree of hardness equal to that of quartz, together with extreme toughness or cohesion of parts. It is found in nodules, embedded in talcose or slate, and granular limestone; and though most frequently met with in Oriental countries, it is, in various forms, widely diffused over the globe. Saussure discovered it, in the form of water-worn pebbles, on the banks of the Lake of Geneva; and similar stones are found on the shores of Iona, one of the Hebrides. Besides the East Indies, China, and Turkey, jade is met with on the Alps and in Piedmont. On Rhode Island, in the United States, it is bedded in limestone; but this variety differs from the Oriental species, in containing a large percentage of water, and is denominated Bowenite, after the name of its discoverer

Jade-stone was applied, in very early ages, and by rude and barbarous nations, to purposes for which metals are now used, and for which its extreme hardness peculiarly fitted it. Axes and other cutting instruments being formed out of it, it acquired the popular name of axe or hatchet-stone. Even in modern times it is employed for warlike and domestic implements by the natives of the South Sea Islands, and especially New Zealand, where it is called *Punamoo*, from the name of the middle island, whence it is obtained.

Another singular purpose to which jade-stone was formerly applied was for the cure of nephritic disorders; but the progress of science has dispelled the belief in its medicinal properties, which may well be supposed to have been purely imaginary, when we state that the mode of its application was by wearing a small plate of it suspended round the neck. This obsolete use of jade-stone, however, has led to the name of *nephrite*, by which it is generally known to mineralogists. Dr. Woodward, who wrote many valuable medical works about the end of the seventeenth century, observes that "the nephritick stone is commonly of a uniform dusky green, but some samples I have seen of it are variegated with white, black, and sometimes yellow."

The employment of jade for ornamental and artistic purposes is, however, that with which we have principally to deal; and the beauty of the material naturally led to such an application of it at a very early

period. It is cut by the Hindoos into small images; and by them, as well as by the Turks, it is often used for the handles of swords and knives. In the north-eastern parts of China the finest specimens, and the greatest variety of jade—which is called by the Chinese *yu*—are produced. We are informed by Mr. Dudgeon, that "its manufacture into ornamental objects is principally carried on in the northern and interior parts of the empire; and so highly is it esteemed among the natives, as frequently to occupy the place of jewellery in ornaments for the person and dress. The finest specimens are white; and a piece of that description, about the size of a pigeon's egg, is worth in China about *one thousand dollars*. It takes but an imperfect polish, rarely exceeding an oily lustre, except in the best specimens. The larger masses are cut into vases, bowls, or cups, some of extreme delicacy and beauty of design, the artist often exhibiting a wonderful talent in taking advantage of any peculiarities in the form of the rough mass, so as to produce a corresponding novelty of effect; and often converting a defect in the material into an elegance." The same gentleman adds, that the large vase in the engraving, which is the property of his brother, Patrick Dudgeon, Esq.,* is merely ornamental in its purpose, and presents a not uncommon form of jade ornaments. It cost in China 12*l*. In reference to the value of such vessels, he states that "rice-bowls are sometimes made of jade, and used; but certainly not more frequently than gold dishes are in England."

In Mr. Dunn's collection there were specimens of a curious object called a *joo-ee*, anciently made of this material in China. Davis describes this as a curved ornament, less bent than the letter S, and about eighteen inches long; adding, that the lotus being generally carved on its superior end, indicates that it had a religious origin. Dr. Morrison says that the *joo-ee*, which was frequently of great value, was carried in the hand by ancient governors or princes of state, as a symbol of authority; being given to them by the Emperor as the badge or seal of their appointment. These sceptres (as they may be termed) are now exchanged as costly marks of friendship and good-will; the words "joo-ee" signifying, "as you wish," or "everything according to your wish." In the same collection were "jade-stone rings, which are put on the arms of females when young, and never taken off;" and also "broad rings of *yu*, worn on the thumb by archers, to prevent the bow chafing." The author of the catalogue (Mr. W. B. Langdon, Curator) states, that "the value of these rings depends upon their colour. As much as 500 dollars has been given by a Chinese for one of a peculiar shade." Some curious teapots, mentioned in the same work, exhibited a combination of jade, porcelain, and white copper; the handles and spouts being of the former material, and the bodies of porcelain coated with the metal.

The British Museum contains two fine specimens of this material; one cut into an oval vase, and the other into an oblong dish and cover: together with other Chinese specimens. Besides the tortoise already referred to (which was "found on the banks of the Jumna near Allahabad, brought to England by Lt.-Gen. Kyd, and presented to the Museum by Thos. Wilkinson, Esq.") the national collection contains a jade-stone cup, "the gift of the King of Ava to Lt.-Col. Burney, when British Resident at that court;" a "jade mouthpiece of a pipe from Egypt;" and other curious specimens.

We cannot close the present notice without adverting briefly to the process of cutting this singularly hard substance. Mr. Dudgeon observes that "the Chinese possess a well-deserved fame for their excellence in glyptics; more especially in hard materials, such as jade and mother-of-pearl, upon which a considerable amount of labour must necessarily be expended. The national character for imitation and patient perseverance has, doubtless, much to do with the application of inexpensive labour to this toilsome work; but they are possessed of powerful corundite, which at one time had a European fame, before it was so well known as it is at present. This cutting material occurs in crystals, mostly enclosed in granite, mica slate, dolomite, or magnetic iron; and in Europe is found in Piedmont and Sweden.† It belongs to the sapphire species, and when obtained fine and pure in colour, is cut as a jewel. It is reduced to a powder before being used for cutting and polishing." Professor Ansted contributed to the Great Exhibition "two cut blocks and four small cylinders of hard jade; and one specimen of coarse granite, the powdered fragments of which are used in cutting that stone." He adds, in a note to the "Official Illustrated Catalogue," that "these specimens are worth notice, because, although numerous finished works in jade have been frequently sent to England, the raw material has not often been seen. It is fine grained, and must have been very difficult to work."

* Erroneously stated in the Catalogue to be exhibited by W. Walkinshaw, Esq. of Hong Kong.

† "Treatise on Gems," by Feuchtwanger of New York.

H. RAFTER. DEL. M. DIGBY WYATT, DIREXT. F. BEDFORD, LITH.

CHINESE VASES IN JADE STONE.

LONDON. PRINTED AND PUBLISHED DECR 1ST 1852 BY DAY & SON LITHOGRAPHERS TO THE QUEEN

PLATE CXIX.

FIGURED SILK.

BY MATHEVON AND BUVARD, LYONS.

Of the rich and beautiful productions, for which the looms of Lyons have so long been celebrated, the specimen which we have chosen for illustration was one of the most elegant exhibited by the firm of Mathevon and Buvard, who have long enjoyed a high reputation for the magnificence of their brocades and furniture stuffs; and we find their names amongst the class receiving high rewards on the occasions of the National Expositions since 1823, when they received their first silver medal. They obtained the same distinction at the next Exposition in 1827; and the jury in 1834 awarded to them the gold medal, of which they also received honourable *rappels* in 1839 and 1844. The reputation which these manufacturers have thus so long enjoyed was well sustained by them in the Great Exhibition of 1851, on which occasion they obtained a prize medal "for some splendid specimens of rich silks for churches and ecclesiastical vestments, as well as for furniture in lampas, damask, brocatelles, and reps, worked in bouquets of flowers, in gold, silver, and silk, the cost of some being above 300 francs per mètre, and the mere labour of which costs from sixty to seventy francs per métre," &c.

The exact period at which silk-weaving was first practised at Lyons appears somewhat obscure; but about 1480, Louis XI. attracted some Italian workmen to France and established them at Tours; and it was not till about forty years later that the manufacture of silk was introduced at Lyons under the protection of Francis I., who, having become the master of the Duchy of Milan, induced some of the Lombard silk-weavers to establish themselves in France. In order to relieve France from her dependence upon Italy, both for the raw material as well as for the manufactured silk stuffs, Henri IV. encouraged the home production by granting patents of nobility to such of the silk-manufacturers as had been engaged more than twelve years in this branch of industry. In 1540 Lyons obtained the privilege of being an exclusive dépôt for silk, and this monopoly was confirmed by various royal ordinances down to 1717.

According to M. Arles Dufour, one of the highest authorities on the subject of the silk-manufacture in France, the number of looms at Lyons and in the neighbourhood, rose during the half century preceding the Revocation of the Edict of Nantes in 1686, to the number of about 12,000, a vast amount of manufacturing riches for that period; but that unhappy measure dispersed the weavers to other countries and ruined the trade of Lyons, so that in 1699 the number of looms had fallen below 4000. By the middle of the next century the trade at Lyons had so far recovered itself, that, according to M. Rolland de la Platière, the number of looms at work averaged about 12,000 between the years 1750 and 1786. In the two subsequent years the city reached the highest pitch of her manufacturing prosperity previous to the Revolution, and she numbered then at least 18,000 looms. This number was again greatly reduced in consequence of the public agitations of the period, in which the citizens of Lyons took an active part; and at last the siege of the city by the army of the Convention, when 30,000 of the inhabitants are said to have perished, again all but annihilated the trade; so that we find the number of looms employed between 1795 and 1800, varying from 2500 to 3500 only.

It was during these troubled years of the Revolution that Jacquard was labouring at the improvement of the silk-loom, which has rendered his name so famous. This truly mechanical genius was the son of a simple

weaver at Lyons, and was born in 1752. He appears to have early exhibited a strong taste for mechanics; but he was not encouraged in this, as he was apprenticed first to a bookbinder, and afterwards to a type-founder. It was only when, on the death of his parents, he became possessed of some little property, that he took up his father's trade of silk-weaving; and having purchased and set up several looms, started as a *chef d'atelier*. Being, however, a man of contemplative rather than of business habits, he was not successful. Jacquard has not left us any record of this part of his life; but it would appear that his attention was early drawn to the pattern weaving-loom with a view to effecting, by mechanical means, the work which was done by the weaver's assistant in moving what is called the *harness*, so as to produce the pattern required. After labouring at this idea for some years under the most disadvantageous circumstances, we find that in 1801 he had so far accomplished his purpose, that he took out a patent for his invention, which he called the *tireuse des lacs;* and in the following year, having put up one of his new looms, he was visited in the poor lodging, which he occupied in Rue de la Pêchererie, by Carnot, the Minister of the Interior, and the members of the *Consulta*, which was then assembled at Lyons. The merits and importance of his invention were, however, but very slowly recognised, although it was exhibited at the National Exposition in 1801, on which occasion the inventor was only rewarded with a bronze medal, and he is spoken of in the Report of the Jury as "the inventor of a mechanical contrivance, which, in the weaving of figured silk, performs the part of the workman called the *draw-boy* (*tireur des lacs*)." Jacquard was sent to Paris, where he was engaged at the Conservatoire des Arts et Métiers, with various pieces of machinery; and particularly in bringing into working order that invented by Vaucanson some time before to effect the same object as his own admirable contrivance; it was, however, too complicated and costly for practical use.

In 1804 Jacquard returned to Lyons, where he was engaged in endeavouring to introduce his looms; in this he was much obstructed by the determined opposition of the working weavers, who even made attempts against his life. In 1806 an order of the then imperial government authorised the municipality of Lyons to purchase of Jacquard the right of his patent, for which he received an annuity of 3000 francs. After this the number of Jacquard-looms rapidly increased, so that we find them amounting to 18,000 in the year 1812. In 1819 he again brought forward his loom at the National Exposition; and on this occasion the jury, more alive to the importance of the invention, awarded to him the gold medal. Notwithstanding numerous brilliant offers of employment in other countries, Jacquard remained in his native city, where he died on the 7th of August, 1834.

The improvements introduced into silk-weaving by Jacquard, as they were confined to Lyons, had a great effect in increasing the trade of that place; and we find that after the peace in 1815, the number of looms employed soon reached the number of 20,000. It must be understood, however, that this includes those at work in the neighbouring country as well as those in the city itself. From the Reports of the juries of the Expositions in 1834 and subsequent years, we learn that between 1815 and 1830 the number of *métiers* worked at Lyons rose from 15,000 to 27,000; and in 1839 it was calculated that there were 31,000 in the town itself, besides 9000 in the country. The number of looms now working either in, round, or for Lyons, is estimated at nearly 50,000.

The invention of Jacquard effected more than a mechanical improvement; for owing to the height of the card or figure-loom, it could not be worked in the low rooms, which, up to the time of the great invention, the weavers usually occupied. The Jacquards are generally worked in *ateliers*, where the *chef d'atelier*, or middleman, sets up several looms, and engages journeymen, who are termed *compagnons*. The *chef d'atelier* obtains the work from the manufacturers, and it is his duty to arrange the warp and the cards for producing the design; he also undertakes the reeling and winding of the silk. To arrange a Jacquard for a complicated pattern, takes sometimes as much as six or seven days, during which time the *compagnon* is necessarily idle; but as the price paid for the work rises very considerably with the intricacy of the pattern, the weaver does not object to this delay. The price paid by the manufacturer is shared equally between the *chef d'atelier* and his *compagnons*, the former, out of his share, providing the workshop, looms, and accessory labour.

It is remarkable that with all her facilities for breeding the worms, France is obliged to draw a very considerable quantity (about fifty-seven millions of francs' worth) of the raw silk from Italy, 145 millions of francs' worth being produced upon her own soil.*

* The "Morning Chronicle" of May 1, 1851, contains an interesting account of the present state of the silk-trade at Lyons, and to this we are indebted for some of our information.

PLATE CXX.

BLOCK-PRINTED TABLE-COVER,

BY D. EVANS AND CO. OF LONDON.

In our notice of Plate XCI. we gave a brief sketch of the history of the woollen manufacture in England, describing in general terms its most characteristic processes, and particularly adverting to the chemical principles involved in colour-printing, and the employment of dyes, mordants, discharges, and resists. We will now endeavour to convey to our readers some idea of the ingenuity with which the operation of printing both woollen and cotton goods is conducted.

Four different modes of printing woven fabrics are practised: firstly, by wooden blocks worked by hand; secondly, by larger blocks set in a frame and worked by machines, one of which is called, from the name of its inventor, M. Perrot of Rouen,—the Perrotine; thirdly, by copper-plates (a method now almost obsolete); and lastly, by engraved copper cylinders, mounted in an elaborate and beautiful machine, and capable of printing a pattern of several colours simultaneously.

The hand-block is the simplest, as it was the earliest, of these methods. The design being drawn on paper is transferred to a block of sycamore wood, fixed upon a base of deal, and cut in relief, as in ordinary wood-engraving. Small slips of copper are substituted for the wooden lines, where they would be subjected to much wear; and pieces of felt are introduced between the copper fillets, where broad patches of colour are to be produced. Each of these blocks will print only one colour, and two or more are therefore requisite for every pattern. The cloth being wound on rollers, a portion of it is spread upon a table before the printer, who is assisted by a boy or girl to spread the colour on a prepared elastic surface. The workman, holding his block by a handle on the back, colours its surface by pressing it upon the pigment or dye; he then, with the blow of a mallet, impresses the coloured pattern from the block upon the cloth; and when the whole of the fabric has been thus printed in one colour, it receives a second portion of the pattern from another block in the same manner. This operation requires considerable manual dexterity, and occupies much time; for as the blocks measure only 9 inches by 5 inches, it requires 672 applications of each block to print a piece of cloth 28 yards long by 30 inches broad; or 2016 separate printings for a piece of three colours.

About the year 1785, woven goods were first printed from engraved copper plates, the design being in intaglio instead of in relief, on hollow rollers or cylinders; care being taken to adapt one or more complete repetitions of the pattern to the exact circumference of the cylinder. By this mode, as in block-printing, one colour only is produced from each cylinder. The labour of engraving these copper cylinders, which are from 30 to 40 inches long by 5 inches in diameter, was subsequently obviated by the application of Mr. Perkins's principle of multiplying steel plates. This beautiful invention was introduced at Manchester by Mr. Lockett about the year 1808, and the process may be described as follows:—A small cylinder of soft steel, about three inches long by one inch in diameter, is first engraved with the desired pattern. This cylinder, which is called the *die*, is then hardened, and by means of powerful pressure is made to transfer the device to a soft steel cylinder of the same size, on which it of course appears in relief. The latter, which is called the *mill*, is then hardened in its turn, and becomes the means of transferring several repe-

titions of the pattern, in intaglio and ready for printing from, to the entire surface of the longer and larger copper cylinder, which it was before necessary to engrave entirely by hand.*

In the improved block-printing machine called the Perrotine, three wooden blocks are brought to bear upon the faces of an iron roller or beam in the form of a prism, around which the cloth is wound. The necessary pressure of each block is regulated by springs, and it is charged with the colouring matter from a prepared elastic surface, which is coated by means of a brush, moved at regular intervals by the machinery. By this contrivance, and with three children to superintend the colouring materials, one man can execute as much work as was performed in an equal time by twenty men and twenty children with the hand-blocks. Another improved method of block-printing is also practised, somewhat resembling the ordinary type press in its mode of operation, and admitting of the simultaneous use of several colours. In this process a set of blocks (or stereotype casts), in number equal to the width of the piece of cloth, are so arranged as to receive and print one colour. Adjoining them is another set, prepared for printing a second colour transversely across the fabric; and a third, fourth, and fifth set of blocks may be added; the whole being securely fixed, with their engraved surfaces downwards, in a frame, which receives a vertical motion from a lever, as in type-printing. An ingenious method of colouring the blocks, so arranged in stripes, is adopted. As many troughs as there are rows of blocks are filled with the different colours, and ranged in the proper order. From these a boy spreads with a brush upon a flat felt cushion a corresponding number of differently coloured stripes, in such a manner as to keep them perfectly free from one another. The cushion thus coloured is moved on small wheels under the blocks, which in descending upon it are charged with their respective colours, and are then made to print them upon the cloth. This is then moved onwards to the extent of the length of one row of blocks; the colouring of the blocks is repeated; and a second printing, by means of the pressman's lever, produces a combination of two colours on the cloth. Another repetition of the process, the cloth being moved forward at the same time, combines a third with the two preceding colours; and the remaining tints are added in the same way. Great care is necessary in the adjustment and working of this machine, but the beautiful simplicity of its action when properly regulated is very remarkable.

The elaborate cylinder-machines now employed for calico-printing are generally worked by steam-power, and have been brought to such perfection that five or six colours are commonly printed by them simultaneously, at the extraordinary speed of nearly a mile in length within an hour; and there is no doubt that as many as eight colours will very soon be printed at once. The cylinders are placed horizontally, so that the lower portion of each dips into a trough containing a colour, mordant, discharger, or resist, as may be successively required; and with one of these, in its rapid revolution, the cylinder becomes completely coated. An instrument resembling a long knife or thin rule, technically called "the doctor," is adjusted, so that its edge presses obliquely on the cylinder, with such precision as to remove all the colour from the surface, but to leave it in the depressed or engraved lines. The pieces of cloth to be printed are temporarily stitched together in considerable lengths, and one end of the fabric being introduced between the first cylinder and a large central drum, the latter presses it upon the cylinder so that it may imbibe the colour from the engraved pattern. Thus printed with one colour, the cloth is brought in rapid succession into contact with the other cylinders, each supplied from its separate trough, and superficially cleansed by a "doctor," at the same time that it imparts the requisite effect to the cloth, which, in an incredibly short space of time, leaves the machine completely and accurately printed with a perfect pattern.

The continuous action of the cylinder-machine presents a striking contrast to the mode of printing with blocks by hand, as already described; and the extreme nicety of adjustment necessary to secure the perfection of the pattern may be readily conceived.

* A particular account of Mr. Perkins's invention will be found in Holtzapffel's "Turning and Mechanical Manipulation;" and a paper by Mr. Perkins in the "Transactions of the Society of Arts," vol. xxxviii., fully describes the mode of decarbonising the steel, and the application of machinery to the successive transfers.

A. AGLIO DEL. M. DIGBY WYATT. DIRECT. F. BEDFORD, LITH.

BLOCK PRINTED TABLE COVER BY EVANS & Co OF LONDON.

LONDON: PRINTED AND PUBLISHED DECR 1ST 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXXI.

HOME-STOVE AND FENDER,

BY STUART AND SMITH OF SHEFFIELD.

In this and the succeeding Plate we present to our readers a Stove and Fender, exhibited by Messrs. Stuart and Smith of Sheffield; a firm whose exertions in the promotion of good taste and excellence of manufacture in works of this description have obtained for them a celebrity as highly merited as it was justly acknowledged, in the award to them of a Council Medal by the Jurors of the Great Exhibition.

In connexion with this object we propose, first, to offer a few remarks on the antiquity of grates and chimneys in this country; and, secondly, to furnish some practical information on the Sheffield trade, the history of which we have already sketched in our article on Plate XCIX.

Grates and fenders of the form now in common use were not introduced till the beginning of the last century, when the extensive destruction of the native forests, which had for centuries before supplied wood and charcoal for fuel, had rendered all classes in some degree dependent upon the mineral treasures in which our island is so rich. Some writers suppose that coal was worked by the Britons and the Romans, as it was in some parts of England by the Saxons; but the first distinct record of its use is met with in the year 1239, when Henry III. granted a license to the town of Newcastle for digging sea-coal, as it was long afterwards termed. In the latter part of the same century the coal-trade of Newcastle had become famous; but so general and popular was the use of wood, that, in the year 1306, the burning of coal in London was prohibited, from its supposed tendency to corrupt the atmosphere and prejudice the health. In the fourteenth and fifteenth centuries the coal-trade was the subject of many enactments and fiscal regulations. In the palace of Henry VIII. only the apartments of the king, the queen, and the Lady Mary, were supplied with that fuel; and its price in London, in the time of Elizabeth, was 8*s.* per chaldron, necessarily rendering it a rare and costly luxury. It was not till the reign of Charles I. that coal can be said to have been generally used.

Chafing-dishes and braziers, consuming wood or charcoal, were used from the earliest periods in English dwellings, as indeed they were occasionally by the Greeks and Romans; but stoves with concealed fires, although common in other parts of Europe (see Plates LV. and CVI.), have, till of late years, been rare in this country. Mr. T. Hudson Turner* observes, that the Saxons introduced a class of buildings rarely containing more than one room, in the centre of which the fire was kindled on the floor, the smoke escaping by an opening in the roof above, and this continued to be the common mode of warming apartments for many centuries afterwards. It is true that chimneys, or perpendicular flues in the walls of buildings of the twelfth century, still remain, and they are still more frequently met with in succeeding centuries; but that they formed exceptions to the general rule is obvious from the remarks of Leland on the chimneys in Bolton Castle, whereby, he observes, "the smoke of the hearth in the halle was wonder strangelye conveyed."

In the Bayeux Tapestry there are representations of cooking over open fires in a courtyard; but the Norman castles at Rochester, Tunbridge, Newcastle, and Conisborough; the remains of Fountains Abbey;

* "Domestic Architecture of England in the Twelfth and Thirteenth Centuries." 8vo. 1851. Introduction, p. iv.

the King's House, Southampton; the Jews' House, Lincoln, and other edifices of the same period, contain fireplaces and chimneys closely resembling in principle and construction those of the present age. Some of these, as at Conisborough, are ornamented with columns and other decorations. Frequently the only fireplace was in an upper story; that in the Jews' House, Lincoln, is immediately over the entrance-door, above which the chimney is corbelled out. The flues did not always rise to the roof, but were carried through the wall horizontally, or in a sloping direction. In the ordinances or assizes, passed in 1189 and 1212 for the regulation of buildings in London, there is no provision for chimneys in party-walls; whence it may be inferred, as some examples prove, that they were carried up the front or rear walls of the gable.

Mr. Turner shows, that in the thirteenth century many chimneys in the royal residences and elsewhere were made of plaster, for the temporary accommodation of the sovereign and his most distinguished guests. The records of the reign of Henry III. contain frequent orders to raise the chimneys; and in some apartments built for him the mantels of the fireplaces were constructed of marble, carved or painted with designs of the twelve months, or the signs of the zodiac, the wheel of Fortune, the root of Jesse, &c. One mantel in the Tower of London was painted with a representation of Winter. The permanent flues of this period were cylindrical shafts of masonry, rising above the ridge of the roof.

Many examples of plain and ornamented chimneypieces, from the twelfth to the fifteenth century, present a general similarity of form. In Tattershall Castle, Lincolnshire, are two remarkable examples of the latter date, adorned with a number of armorial bearings. All of these, however, being for the consumption of wood, had the well-known appendages termed *and-irons*, or fire-dogs, on which the fuel rested. These and-irons, a variety of which were also used upon the hearth placed in the centre of the hall, were frequently of elaborate design, and were richly ornamented with heraldic ornaments, foliage, scroll-work, and monograms; sometimes with brass or silver work. In Mr. Lower's account of the extinct iron-works of Sussex, will be found descriptions and engravings of many and-irons and ornamented chimney-backs, dating from the fifteenth to the seventeenth century inclusive.

In the reigns of the Tudors the chimney became an important architectural feature, surmounted by tall shafts of brickwork, no less elaborate in design than in execution; and at the same time the chimneypiece assumed much greater consequence in internal decoration. The sumptuous apartments of the reign of Elizabeth present many specimens of ornamented chimneypieces, and the taste for them increased under her successor.* Harrison quaintly informs us, that the old men of his village "did particularly note the multitude of chymneys latelie erected; whereas in their young daies there were not above two or three, if so manie, in most uplandish towns of the realme (the religious houses and manour places of their lords alwaies excepted, and peradventure some great personages), but ech one made his fire against a reredosse in the halle, where he dined and dressed his meate;" and he reproaches the effeminacy of the "tenderlings," who complain of "rhumes and catarrhs," whereas when they had none but reredosses their heads did never ache.† Sir John Haryngton, about the same period, in his "Metamorphosis of Ajax," claims as his own invention the cowl for the cure of smoky chimneys, which their increasing number had rendered necessary.

In the year 1603 the furniture of Hengrave Hall comprised "two payer of andyorones, with heads and foreparts of copper;" "one fier sholve made like a grate to seft the sea cole with;" "one payer of tongues;" together with "one cradell of iron for the chimnye, to borne sea cole with." The poker was originally a fire-fork, adapted both to wood and coal. An iron grate, "caminum ferreum," was in use for cooking from a very early period; and it may not be superfluous to remark that the term "grate," applying to the form of the barred or grated object, was in a similar sense used to designate a basket, a basket-maker being styled a "grate-maker" in 1582. The earliest grates for burning coal were moveable, and made to rest upon the older and-irons. Among the fire-backs engraved by Mr. Lower is one representing Charles II. in the Royal Oak.

As the consumption of coals increased, fixed grates became more frequent in dwelling-houses. Those of the eighteenth century were large, inelegant, and unscientific in construction; and the humbler classes of the community were indebted to Count Rumford for the introduction of a cheap and convenient grate, which long bore his name. It would be impossible within our limits to enumerate the improvements, both in principle and execution, which have been made within the last fifty years; nor will it be necessary to those who remember the admirable variety of grates, stoves, ovens, and ranges, in the Great Exhibition of 1851.

* Iachimo's description of the chimneypiece and and-irons in the chamber of Imogen is familiar to every reader of Shakspeare.

† "Description of England," prefixed to Holinshed's Chronicles, 1587.

J. R. CLAYTON, DEL. M. DIGBY WYATT, DIREXT. F. BEDFORD, LITH.

THE HOME STOVE AND FENDER BY STUART AND SMITH OF SHEFFIELD.

LONDON PRINTED AND PUBLISHED DEC.ᴿ 15ᵀᴴ 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXXII.

DETAILS OF HOME-STOVE AND FENDER,

BY STUART AND SMITH OF SHEFFIELD.

In considering the more striking and characteristic manufactures of Sheffield, we are necessarily led, in the first instance, to the processes by which iron, when brought into the form of bars, rods, and sheets, is converted into steel; the material which forms the great staple of the local trade. This change is produced by a series of operations, in the course of which a certain amount of carbon is imbibed or absorbed by the iron while subjected to the action of intense heat.

We may premise that the best description of steel is made from the iron imported from Sweden, being chiefly the product of some mines at Dannemora, about thirty miles from Upsala, which have been worked for more than four centuries, and yield upwards of 4000 tons annually. The well-known superiority of the Dannemora iron has been by some writers ascribed to the presence of manganese, or silica in the ore, and by others to the processes employed in smelting it, particularly the use of wood fuel. The bar-iron of this locality is distinguished by its being marked with the letter L within a circle ("hoop L," as it is commonly termed); and other foreign varieties are in like manner known and valued as "C C N D," "double bullet," "gridiron," "C and Crown," &c.

The extensive steel works of Sheffield are of different kinds, and each bear distinctive appellations,—comprising,—"converting works," in which steel in its crudest form is produced; "tilts," or tilt works, in which the quality of the steel is further developed; "casting furnaces," in which the purest steel is produced by melting and pouring the metal into moulds; and "rolling mills," by which the steel is formed into every variety of bars and sheet: and in some, though comparatively few establishments, these different processes are all carried on.

The office of the converting-furnace, as its name denotes, is that of combining bar-iron with a sufficient amount of carbon to entitle it to the name of steel. It is, in fact, a large oven, containing two receptacles, or troughs, in which charcoal and iron bars are placed in alternate layers, covered at the top with a cement made of the particles worn by abrasion from the numerous grindstones used in Sheffield. The bars are subjected to a fierce heat for several days; more or less, according to the purposes for which the metal is intended. For files and similar articles, and for casting, a high degree of conversion is required. The metal thus converted for ordinary purposes is denominated "blister steel." After being again heated and toughened by the blows of a ponderous hammer, it is termed "common steel." "Shear steel" is a name originally employed to denote that kind which is adapted for making shears; and the process for bringing it to that state is called "shearing." Though an important operation, this may be simply described by stating that the blister steel is broken into pieces of about a foot in length, heated to a high degree, and subjected to the action of hammers worked by steam, so as to form a compact and uniform mass without flaws or blisters, and more malleable and tenacious than before. This action is for some purposes repeated; and according to the extent to which the metal is welded or sheared it is termed "half-shear," "single-shear," or "double-shear."

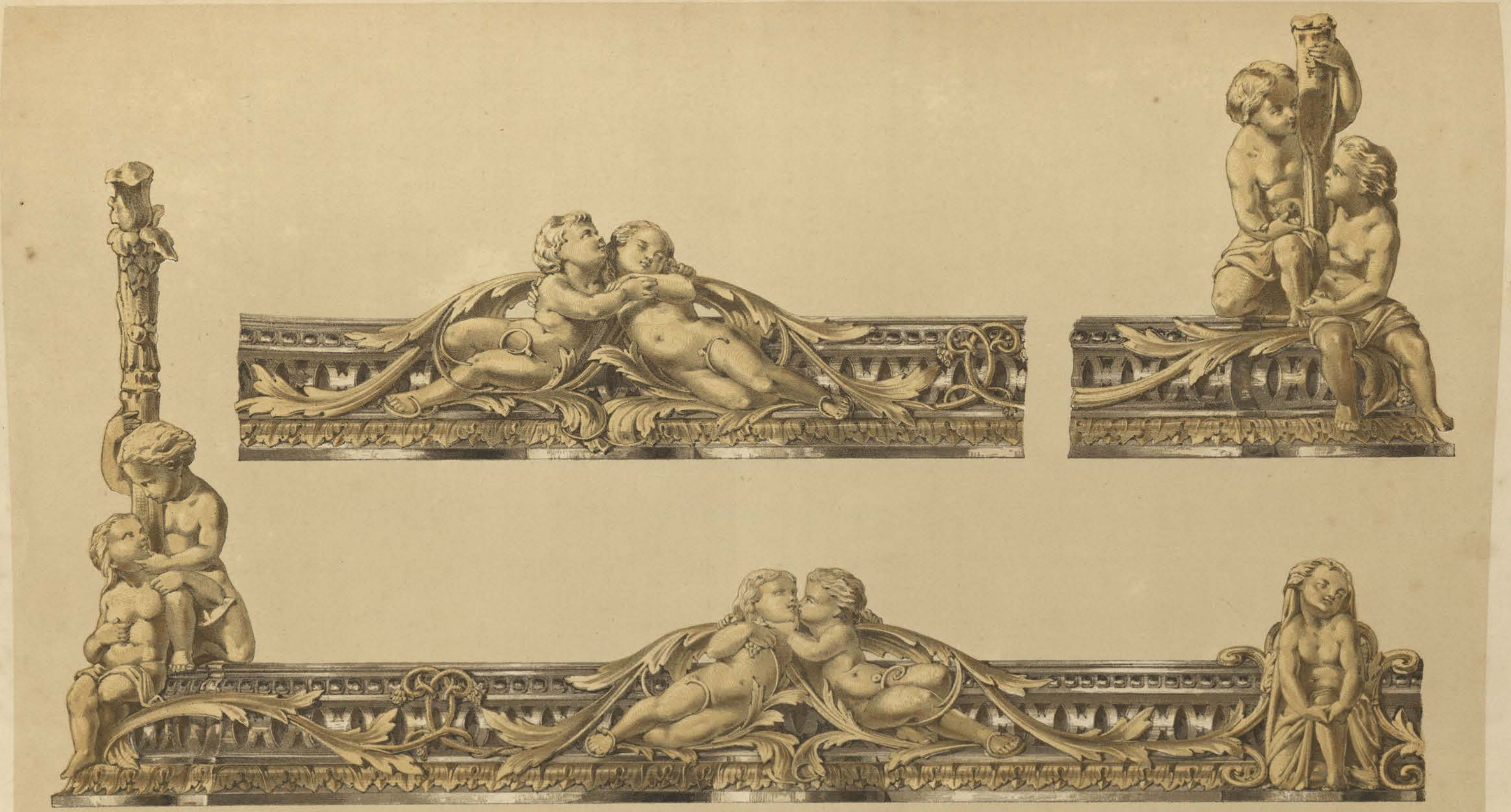
The application of heat is one of the most important and frequently recurring processes in the production of fine steel; and in no other manufacture is it required to so great an extent as in reducing this metal to a

fluid state, in order to cast it in moulds. The furnaces for this purpose are fed with coke, and copiously supplied with air by gratings from below. They are beneath the level of the floor, through which the fuel is introduced by small square openings, and each furnace is only eighteen inches square by four feet in depth. The steel is melted in crucibles, each nearly two feet in height, made with much care from the Stourbridge clay: when these have been let down into the furnaces, and brought to a white heat, fragments of steel are poured into them through a funnel. The crucibles, and the apertures of the furnaces, being then closed, the fire is kept up for four hours: four or five tons of coal are required to melt one ton of steel; but the result is the perfect fusion of the metal, which is raised in the crucible from the furnace, and poured into moulds, from which it is afterwards removed in the form of oblong bars or ingots, varying in shape according to their future destination.

Both shear and cast steel, when intended for the best description of goods, are submitted to an operation called "tilting," consisting of a further heating, and the action of enormous "tilt-hammers." The "tilts," or establishments in which this branch of the manufacture is carried on, are limited to it entirely, receiving the bars from the casters and shearers, and returning them after the completion of the operation.

The steel being thus prepared for working, it is applied to the production of innumerable articles of universal utility; and amongst these cutlery and edge-tools of every description have long held the foremost place, and conferred on Sheffield a world-wide reputation. The division of labour is there, as at Birmingham, carried to the utmost extent; and table-knives, pen-knives, forks, lancets, razors, scythes, saws, scissors, shears, spades, and edge-tools, are respectively the main objects of attention to different firms. The manufacture of table-knives, as might be expected, forms the most extensive branch of the cutlery trade. These, according to their quality, are made of bar-iron, common steel, shear steel, or cast steel; the blade, shoulder, and tang, being first forged upon the anvil, are hardened, by being plunged, when red hot, into cold water, tempered by being again gradually heated and cooled, and ground, sharpened, and polished in the "wheels," which, like the "tilts," form so remarkable a feature of the town. These "wheels" are large buildings fitted with an immense number of grindstones, varying from four inches to seven feet in diameter, and turned by steam; the polishing wheels being covered with a band either of tin alloyed with lead or of buff leather. Steel forks are generally made of blister or common steel, and, being forged roughly into shape, the prongs are formed by the pressure of a heavy stamp, aided subsequently by a fly-press. When filed and hardened, the prongs are ground by hand upon a dry stone; and this is one of the most deleterious operations which the working cutler has to perform. The fine particles of steel and stone produced by the action of the grindstone are inhaled by the workman, producing a disease familiarly known as the "grinders' asthma," so fatal in its effects that few of those engaged in the operation attain the age of forty-five. Ingenious plans have been devised for the prevention of this evil. One gentleman invented a shield of magnets to be worn over the workman's mouth, so as to arrest the particles of steel before their inhalation; another employed an equally simple remedy, in the formation of a wooden tube or chimney, immediately above the grindstone, its extremity being carried through the wall of the workshop; the revolution of the wheel being rapid enough to cause a current of air by which the noxious particles were effectually removed; but whether from a desire to maintain a high rate of wages, or from some other cause, the artizans employed have uniformly rejected these and other benevolent projects.

The greatest care is necessary in the grinding and tempering of razors; and the highest degree of scientific skill, with the greatest refinement of execution, have been displayed in their manufacture. A great variety of tools, and various modes of grinding, are employed in the production of scissors; and in these, as in other cutting instruments, much ingenuity and skill are displayed in the union of iron with steel, so as to combine economy with excellence. We cannot here enter upon the interesting processes involved in the manufacture of files, saws, screws, nails, needles, and other products of the industry of Sheffield. In grates and stoves, to which class of objects our present illustration belongs, iron and brass castings are extensively combined with steel; and our readers will find some valuable information on the principles involved in such objects, and the perfection with which they have been carried out, in the second volume of the "Treatise on Manufactures in Metal," in Lardner's "Cabinet Cyclopædia."



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DETAILS OF THE HOME STOVE AND FENDER BY STUART AND SMITH OF SHEFFIELD.

LONDON, PRINTED AND PUBLISHED 15TH DEC.R 1862, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXXIII.

EMBROIDERED BAGS FROM GREECE.

We take this opportunity of resuming the subject of Byzantine embroidery from our notice of Plate LXXX., and we shall proceed to trace the very extensive influence of the costume and workmanship of the Eastern empire in the middle ages. Many events contributed to render Byzantium the art-capital of the world from the time of its rebuilding down to the end of the twelfth century, when Christian art began to assume a new and peculiar character. The Emperor Constantine transported the most skilful workmen from Rome to his newly-founded capital; and it is by no means unlikely that the misfortunes which befell the former city from the armies of Alaric and Genseric, and the extinction of the Persian empire by the followers of Mahomet at a later period, rendered Constantinople almost the only city where the arts could be patronised or cultivated with any degree of security.

Numerous contemporary authorities agree in informing us that a decided similarity existed for nearly seven centuries between the costume of the Western nations and that of the Byzantine court; and this not only as respects the Imperial and regal ornaments, which might naturally be supposed to be imitated from the Eastern emperors. Even the MSS. of our own country show us that there was but little essential difference between the "kirtle," "mantel," "gunna," and "headrail" of the Saxon lady, and the "parure" of the matrons of Constantinople. The same observation holds good with regard to the costume of the other sex; the only difference being that the severity of our climate demanded a few additions in the shape of "hosen," "hoods," &c.

M. Potier has noticed a still more singular coincidence in his learned description prefixed to "Willemin's Monumens inedits," where he mentions a Greek MS. now in the Bibliothèque Nationale, containing no less than four portraits of the Emperor Nicephorus in his Imperial robes. In each case the shape of the garments is similar; but the small "plaques" of metal with which they are powdered, have their forms varied, and are remarkable as presenting us with the exact shapes of the spades, diamonds, clubs, and hearts, so familiar on the common playing cards of the present day.

By far the most common decoration of the garments of the nobility were the figures of birds, beasts, dragons, &c., which were generally woven in gold on thread upon a silk ground. So great was the exportation of these fabrics through the medium of the Venetians, that it may safely be asserted that they constituted the material of the more valuable garments of the higher classes throughout the whole of Europe. The first blow to this trade was the forcible settlement in Sicily of the silk-weavers from Corinth and Thebes in 1146, by George, the lieutenant of Roger I., who, having ravaged the whole of Greece, brought away these poor workmen as no inconsiderable addition to the plunder. They were, however, well received by the king, a building was allotted for their especial use in Palermo, and they no doubt contributed to improve the manufacture of the fabrics which were already in use among the Saracenic inhabitants.

This may account for the fact that nearly all the fragments of precious stuffs of that era, which have come down to our time, present us with inscriptions in Cufic characters. Almost all of these are generally supposed to have been imported from the East; but that theory is inconsistent with the fact that the Cufic inscriptions are frequently found in connexion with animals, birds, &c., which, by the rules of their religion, the Mahometans were expressly forbidden to imitate. The question however is, to a certain degree, settled by the discoveries of such fabrics in the tombs of Roger I., Arrigo VI., Arrigo VIII., and Constanza II., all kings of Sicily,*

* *Vide* Danieli's "Regali Sepolchri," in which interesting work many of these robes are figured.

and still more so by the inscriptions on the imperial robes now preserved at Vienna. The most remarkable of these is the alb, upon which are embroidered these words: "Operatum felici urbe Panormi XV anno dni' W de' gra' regis Sicilie ducat' Apulie et Principat cap' filii regis W indictione XIII (A.D. 1181)." There is, likewise, a Cufic inscription, but unhappily illegible, the ingenuity of the German antiquaries having as yet only been able to decipher the name of Otho.

M. Potier, to whom we are indebted for these details, also mentions an inscription in similar characters on the cope, containing the information that it was made in the year of the Hegira 528 (A.D. 1133), in the capital of Sicily, and finishing with wishes for the health of the king, Roger. The whole of these imperial robes are well deserving of the study of the antiquary and artist, inasmuch as they present at one view the whole processes of weaving and embroidery in the precious metals, with the application of pearls and jewels, an art in great request during the Byzantine period and throughout the whole of the middle ages.*

We learn from the MSS. that the practice of ornamenting the borders of vestments with jewels was common with the nobility and higher classes in Byzantium; and it is by no means improbable that in nearly all these cases the jewels were false, as we find them employed in the same profusion in the representations of furniture, &c.; while the extensive manufactories of glass, which were principally employed in the production of the mosaic work, would offer great facilities for carrying into practice that process of making false gems, so accurately described by Theophilus.†

The commerce of Greece in precious textile fabrics had probably become very nearly extinct before the end of the Crusades, as most of the patterns we meet with after that time present us with decidedly Gothic types. An exception must, however, be made with regard to Venice and Genoa, the former of which retained traces of Byzantine influence down to a very late period, more especially in the profuse employment of precious stones and pearls (or their substitutes) in most of the works where embroidery was required.

The other countries of Europe either made their own stuffs or imported them from a nearer emporium than Byzantium; and when we consider the various apparels and orfreys required in a single set of priest's vestments, we can easily believe that the trade of the "Broudeurs" was by no means an idle one. These "Broudeurs," as their name implies, were only employed upon the orfreys, and do not appear to have completed entire vestments, which latter branch of the trade was occupied by the "Chasubliers," "Etoliers," &c., who most probably dealt in but one kind of vestment.‡

M. Rédet has disinterred from the archives of Poitiers§ the bill of Colin Joyle for making the embroidered orfreys of a cope for the use of Charles VII., and for which he was to be paid the sum of thirty-five crowns; by no means an extravagant price, considering that the work was composed almost entirely of figures, and that two centuries before Philip III. confessed to Joinville that some of his embroidered garments had cost him as much as 800 livres Parisis.

We must not omit to mention that St. Gregory sent sundry vestments and altar furniture into England for the use of the new church which St. Austin had just established. These, no doubt, in the first instance, became models for the imitation of the Anglo-Saxon ladies, and so successfully did they pursue the art, that early historians especially praise our nation as excelling in three things: viz., goldsmith's work, the illuminating of manuscripts, and the embroidery of vestments. While we are obliged to doubt whether an impartial writer would say as much for us in the present day, we cannot but hope, considering the impulse given to these arts of late years, that at no very distant period the dead text may become a living reality.

* When the tomb of Edward I. was opened by the Society of Antiquaries in the last century, the stole was found to be decorated alternately with seed pearls and "plaques" of metal, containing false jewels.

† "Schedula diversarum artium."

‡ See le Dit de la Queue de Renart in "Jubinal's Dits et Contes."

§ "Annales Archéologiques," vol. i. p. 27.

J SLIEGH DEL

M DIGBY WYATT DIREX

F BAUER LITH

EMBROIDERED BAGS FROM GREECE

PLATE CXXIV.

SPECIMENS OF ENAMELLING FROM INDIAN ARMS.

The objects represented in the present Plate will serve to remind the reader of the beautiful and elaborate articles of a similar description comprised in the Indian department of the Great Exhibition. In a future article we intend to offer some remarks on the general design and decoration of such objects; and we may therefore, on the present occasion, limit our observations to the admitted excellence of the steel produced in India, and the mode in which it is prepared for conversion into sword-blades, spears, and other weapons. In doing so, we shall avail ourselves of the lecture by Dr. Royle "On the Arts and Manufactures of India" (delivered at the Society of Arts, Feb. 18, 1852), which we have quoted in former pages; adding thereto some particulars collected from other authentic sources.

The learned doctor observes, that "it is difficult to understand how a primitive people could have overcome the difficulty of smelting iron and of forging steel; yet the Hindoos have long done so. It is hardly less wonderful," he adds, "to see a native of India, with no other tools than his hatchet and his hands, proceed to smelt iron, which he will convert into steel capable of competing with the best prepared in Europe." In reference to the extreme antiquity of these arts in the East, Dr. Royle observes that iron is mentioned in the earliest chapters of the Bible as being applied to purposes for which it must have been hardened. "Northern iron" is also spoken of in the sacred record; and Mr. Aikin* adduces reasons which render it probable that this expression refers to the countries east of Babylonia. A passage in Ezekiel mentions "bright iron, cassia, and calamus," which are all Indian products, as having been brought to Tyre. "The Hebrew name of steel, *paldah*, is evidently the same word as the Arabic, *foulad*, which is also in use in Persia, where Indian steel is known by the name of *foulad-i-hind*. Even now the best Persian swords are made with steel imported from India. Mr. Heath, at one time the managing director of the India Iron and Steel Company, and whose steel obtained a prize at the Exhibition, believes that the tools which the Egyptians used in engraving the hieroglyphics upon their obelisks and temples of porphyry and syenite were made of Indian steel. There is no doubt that the carvings in the ancient temples and fortresses of India were executed with steel instruments, as they are at the present day. That the Hindoos made steel which was highly valued in the time of Alexander the Great is evident from Porus making him a present of about thirty pounds of steel; and still earlier (about 1300 B.C.), in the Rig Veda, we read of chariots armed with iron weapons, of coats of mail, of arms and tools of different kinds, and of bright-edged hatchets." One of the traditions as to the death of Cyrus I. (529 B.C.) was that it was caused by the javelin of an Indian when he was making war upon that country.

The attention of scientific men in England was first publicly called to the peculiar properties and excellence of Indian steel in the year 1795, when Dr. Scott, of Bombay, forwarded to the President of the Royal Society some specimens of "wootz," as it is called in India, and which he described as "a kind of steel in high estimation among the Hindoos," at the same time requesting that some inquiries might be instituted with a view to obtain further knowledge of its nature and qualities. Some elaborate analyses, tests, comparisons, and experiments were accordingly undertaken by Dr. George Pearson, F.R.S., and the results were printed in the "Philosophical Transactions" (Vol. lxxxv. p. 322). Probably the specimens

* Lecture at the Society of Arts.

forwarded by Dr. Scott were of somewhat inferior quality; for more recent experience has conferred upon the Indian steel a higher degree of estimation than Dr. Pearson allows to it; although he admits its excellence in many respects.*

Adopting mainly the authority of Mr. Heath, we may briefly describe the processes of smelting and forging wootz as follows:—The ore used is a magnetic oxide of iron, consisting of 72 per cent. of iron, with 28 of oxygen, combined with quartz, in the proportion of 52 of oxide to 48 of quartz. It is prepared by stamping, or pounding, and then separating the quartz by washing or winnowing, and in these operations the Hindoo females are very dexterous. The smelting furnace is built of clay alone, from three to five feet high, and pear-shaped. The bellows, which are used in pairs, are of a kind common throughout India; each consisting of a goat-skin, untanned, but made pliable by being rubbed between the hands, and used with the hair side outside. The body of the animal is extracted by a large opening in the hinder part, so as to leave the skin of the carcass perfect, and a bamboo nozzle, ending in a clay pipe, is inserted at the neck. The fuel is charcoal, upon which the ore is laid, in a damp state, but without flux; the bellows are plied for about four hours, and when the ore is reduced it is taken out, and while red-hot is cut nearly through with a hatchet, in order to show the quality of the mass. The iron thus produced is forged by repeated hammering, until it forms an unpromising bar, from which an English manufacturer of steel would turn with contempt; but in the conversion of which, the Hindoo proceeds with the utmost success. For this purpose, he cuts it into small pieces, and puts about a pound into a crucible, with dried wood of the *Cassia auriculata*, and a few green leaves, either of *Asclepias gigantea*, or of the *Convolvulus laurifolia*. The object of this is to furnish carbon to the iron. The mouths of the crucibles are stopped with clay, and about twenty or twenty-four of them are built up in the form of an arch, in a small furnace: charcoal is heaped over them, and the bellows are employed to maintain a blast without intermission for about two hours and a half. The crucibles being removed, and allowed to cool, are broken, when the wootz, or steel, is taken out in the form of a cake rounded by the bottom of the crucible. Mr. Stodart, whose opinion is of great practical value, states that for the purposes of cutlery this product is "infinitely superior to the best English steel;"† but it necessarily happens that there is a difference in the quality of the cakes, some being occasionally honeycombed and otherwise defective. It is, indeed, a striking fact that the Hindoos are able to produce such admirable cast steel, in so short a time, with an application of heat which in this country would be deemed utterly inadequate. At Sheffield, it requires at least four hours to melt blistered steel in wind-furnaces of the best construction, although the crucibles are at a white heat when the metal is put into them; whilst in the Indian process they are quite cold when placed in the furnace.

As it leaves the crucible, the steel becomes an article of commerce; but for the operations of the native cutlers, it is drawn into bars, first by annealing for several hours in a small furnace, which softens the metal, and then by beating with a hammer of a few pounds weight. Two pieces of cast steel are welded together, by giving to each a sloping face, jagged all over with a small chisel, uniting these faces with some calcined borax between them, tying them together with a wire, and subjecting them to a red heat, and to a few smart blows of a hammer. So skilfully is this operation performed, that a powerful microscope is necessary to render visible the line of junction.

The manufacture of steel, and its conversion into weapons, is carried on in many of the large cities of India, especially in Lahore, Hyderabad, and Kashmir. In urging the cultivation of Oriental arts and manufactures, Dr. Royle particularly observes that, "the wootz steel might be largely consumed in Europe, and the highly-wrought arms of the East would be bought as curiosities, and for the artistic skill displayed as well in the cutlery as in the inlaying."

* An able abstract of Dr. Pearson's paper will be found in the "Treatise on the Progressive Improvement and Present State of Manufactures in Metal," in "Lardner's Cabinet Cyclopædia."

† Supplement to "Encyclopædia Britannica."

PLATE CXXV.

SIDEBOARD AND FURNITURE,

BY SNELL OF LONDON.

In all objects of furniture, excellence can only be attained by attention to three essential requisites,—the design, the workmanship, and the utility. Too frequently the first and last of these are neglected; so that although the skill of the cabinet-maker may be attested by the strength and durability of his work, it is often rather an encumbrance than an ornament. We are happy to see that a decided improvement is taking place in this respect, and have great pleasure in bearing testimony to the exertions of Mr. Snell to render furniture more an object of *art*-manufacture. From a communication, with which he has obligingly favoured us, we learn that the father of the present head of the house commenced business in 1775, and shortly after built a manufactory in Hanover Street, Long Acre, where the business was conducted until the year 1820, Mr. Snell, senior, having left the concern to his sons, who at that period removed to Albemarle Street. As the engagements of the house increased, they erected extensive buildings for their manufacture in the Belgrave Road, Pimlico, in which all the modern improvements in science and machinery are brought to the assistance of the cabinet-maker. One of the most important of these is the seasoning of the wood by a more rapid process than mere exposure to the influence of the atmosphere. The planks are placed for this purpose in a heated chamber, from which the vapour extracted from the wood is drawn off through the roof. Mr. Snell describes his process thus:—"Where the colouring of the wood is not subject to be injured, I prefer placing the wet wood into steam for a few hours, and, on removing the pieces, plunging them into cold water, then exposing them in the open air for a week, and, lastly, placing them in the hot room for fourteen days. This plan is quite effective for mahogany, but it would wash out the colour of many of our most beautiful woods; the dry process is, therefore, the best for all woods where the colour is fugitive." Mr. Snell, however, adds, that "the cabinet-maker still prefers the slow process of seasoning in the open air, as more to be depended on; for it not only removes the moisture gradually without cracking the wood, but it exposes the tendency of each particular board to twist, and thus determines its fitness for any particular application."

The sideboard and glass, which form the subject of our Plate, were designed by the Baron Marochetti, who has thereby shown how little most eminent talent may be degraded by being employed on such objects. We learn also from Mr. Snell that he has at various times executed designs by numerous architects of distinction, as well as by Sir F. Chantrey; and it is thus by endeavouring to obtain the highest artistic assistance, and by carrying out the designs in a superior style of workmanship, that this manufacturer has so successfully advanced in the struggle of competition, in which cheapness generally forms the most usual though often delusive attraction.

We shall now continue our historical sketch of the subject generally from the point at which we arrived in our last notice (Plate XC.)

As little change of any importance took place in the forms of the articles of furniture in the course of the fifteenth century, we may now briefly describe each separately, and subsequently glean some particulars from the MSS. of the arrangements of the interior of the principal rooms of a large house of the period.

For the chairs, the camp-stool type still continued in use, but the legs were bent into the form of a

semicircle; the upper portions, assuming the same, were connected by means of arms, and a back, often of considerable height, was added. Of course, those chairs with fixed backs were incapable of being folded up, but others were expressly made for this purpose. A chair of this description is in the possession of an inhabitant of Dover, and is said to have been used by Henry VIII. at the Field of Cloth of Gold. Another example of the folding type is the celebrated Glastonbury chair, which must be referred to the middle of the century; in this case the pieces could be easily separated, and the whole packed into a very small compass.*

At the beginning of the next century we read of little gilt chairs for women, scrolled chairs, turned chairs, and Flemish chairs; these, however, belonged to the parlour, or best room in the house; the other apartments would probably contain only benches and stools.

The board (or as it was called, "the table") and trestles continued in fashion down to a very late period, and in nearly all the inventories of the time there is frequent mention of "a fayre table and two trestles;" these latter, in the great dining-halls, were frequently morticed into the ground, but in general they appear to have been used for the convenience they afforded of being packed away into a small compass. Other tables, in the modern sense of the word, were no doubt in use, but appear to have been of small dimensions, and, with a few exceptions of the time of Henry VIII., no specimens are remaining.†

The cupboards, or, as we should now call them, the sideboards, often consisted of nothing more than a couple of trestles and a wooden top, resting against the wall. Sometimes, however, they were regularly framed into desks, or steps, upon which the plate was deposited, in which case they were called jointed cupboards. In France the number of desks varied with the rank of the owner, but we are not aware whether this was the case in England. Cavendish mentions Cardinal Wolsey as displaying one "six desks high, full of gilt plate, very sumptuous;" while the king, on the same occasion, exhibited to the French ambassadors one cupboard seven stages high, and thirteen feet long, full of gold plate, and another of nine stages. These cupboards owed most of their splendour to their coverings, for the most part composed of velvet, tapestry, and Turkey carpets, which began to be imported into England about the middle of the fifteenth century. The same coverings were used for the tables, and served to hide the unsightliness of the trestles.

The bedsteads, if we may believe the MSS. illuminations, were often very splendid, being covered with richly embroidered counterpanes and curtains. The curtains were hung, from a rough frame-work, covered with tapestry, and surrounded with a valence, the whole being suspended by ornamental cords from the beams of the ceiling. The regular four-post bedstead did not make its appearance much before the time of Henry VIII. A very fine example remains at Covely Hall, near Blackburn, Lancashire; the posts, in this instance, are elaborately carved, reminding us of the pillars supporting the stalls in Henry VII.'s Chapel at Westminster.

The *ark*, or chest, supplied the place of the modern wardrobe, and was often ornamented with much care; many are yet to be found in our parish churches, most elaborately carved. Those destined for domestic use were much simpler, but often decorated with gilding and colouring.‡ Many chests were simply framed of massive timber, and the panels ornamented with the linen fold. Others, again, owed all their decoration to their iron-work. When raised from the ground on feet, they were termed "standard chests;" and those for containing linen and clothes "trussing chests." Smaller coffers were used to contain papers, money, and jewellery, and were often made of wood, covered with "cuir bouilli," ornamented with an indented pattern, and secured by bands of iron. Occasionally they were of carved ivory, with the carnations, borders of garments, &c., coloured or gilt. But more frequently they were entirely covered with elaborate iron tracery, the intricacies of which were made apparent by means of red velvet introduced beneath.

One of the most curious relics of the middle of the fifteenth century is the cradle of Henry V., now preserved at Brislington, near Bristol. It may be described as a square box, made of four thin planks of oak, covered entirely with horizontal mouldings; the supports take the shape of a T reversed, strengthened by carved spandril pieces. On the summit of each is a carved bird. The more common cradles represented in the illuminated MSS. are not unlike the modern ones, and are exceedingly plain.

* As to the chair or throne in St. Mary's Hall, Coventry, Sir S. Meyrick considers that it was originally connected with the stall-work in the church; and its whole appearance, especially the tracery with which it is covered, confirms this supposition.

† Mr. Shaw, in his "Ancient Furniture," has engraved a folding-table, circa 1500, ornamented with "Romayne work," as it was then termed; which was a coarse imitation of those beautiful arabesques which we find so frequently employed in the French Renaissance.

‡ The chest of Sir Thomas More, which still exists, is covered with canvass, painted black; upon this, as a ground, are represented gay-coloured flowers, and, lastly, the whole of the iron-work is gilt.

F.SMALLFIELD, DEL.

M.DIGBY WYATT, DIREXT.

F.MORAS. LITH.

SIDEBOARD WITH GLASS & FURNITURE BY SNELL OF LONDON.
DESIGNED BY THE BARON MAROCHETTI.

LONDON PRINTED AND PUBLISHED DECR 15TH 1852. BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXXVI.

PANEL ORNAMENTED IN BUHL, FROM A CHIFFONIÈRE,

BY FOURDINOIS, OF PARIS.

THE particular kind of inlaid-work called *buhl* was first invented and used for the decoration of furniture by Boule, an ingenious cabinet-maker of Paris, in the time of Louis XIV. He was born there in 1642, and died at the advanced age of ninety. He was very much employed by the King, who assigned him a lodging at the Louvre, where he designed and superintended the execution of the rich and elaborate tables, cabinets, &c., which were the fashion at the Courts of Louis XIV. and his successor, and which are as much celebrated for their graceful forms and outlines as for their embellishment with inlaid-work. Reisner, another celebrated *ebeniste* of the same period, was also much patronised by both monarchs. The manufacture appears always to have been almost exclusively carried on in Paris, and though during the period of the Republic and the Empire it was little in demand, owing to the prevalence of a severe classical taste in all decoration, the varied demands of fashion at the present day have again brought it into use.

M. Fourdinois, the manufacturer of the chiffonière, from which the panel engraved is taken, has made himself a reputation by the works he has exhibited at the different Expositions at Paris. At that in 1844, when he was associated with M. Fossey, they obtained the silver medal; in 1849 that distinction was confirmed by a "rappel" to M. Fourdinois, who then appeared alone. The same gentleman obtained the Council medal for his works in the Great Exhibition; a distinction which was, perhaps, due rather to the excellent execution than to the correct taste of the design of some of the articles.

Although both buhl and marqueterie consist of inlaid veneers, they differ considerably in their methods of execution, which also affects the style of the ornaments thus executed, the former being confined to decorative scroll-work, frequently in metal, while the latter is more commonly used for representation of flowers and foliage.

Having already (Plate LXXV.) given some account of marqueterie work, we shall, in the present notice, offer some description of the process of ornamenting with buhl; in doing which, we shall avail ourselves of Mr. Holtzapffel's description in his admirable work on "Turning and Mechanical Manipulation:"—"In buhl work, the patterns generally consist of continuous lines, of which the honey-suckle ornament may be taken as a familiar example. To make this, two pieces of veneer, of equal size, are scraped evenly on both sides with the toothing-plane, and glued together with a piece of paper between them, for the convenience of their separation afterwards. Another piece of paper is glued on the outside, and on this the design is sketched; a minute hole is then made with a sharp-pointed awl, for the introduction of the saw, a spot being selected in which the puncture will escape observation. The veneers being fitted in a frame, the saw is then inserted, and the several lines of the work are followed by the blade, which is kept horizontal, but the frame and work are rapidly twisted about at all angles, to place the saw in the direction of the several lines. Considerable art is required in designing and sawing these ornaments, so that the saw may continue to ramble uninterruptedly through the pattern."

"When the sawing is completed the parts are laid flat on a table, and any removed pieces are replaced, and one of the veneers is stripped off with a palette-knife, which splits the paper. The pattern

is now pushed out of the other veneer, and any minute pieces are picked out, and laid aside. The cavity thus produced is now entirely filled up with the pattern cut out of the other veneer, and the pieces are retained in contact with a little thick glue. They are then turned over, and the toothings, or fine dust of the darker wood, are rubbed in to fill up the interstices, after which the work is laid aside to dry." It is then ready to be glued on to the piece of furniture it is intended to decorate, in the manner of an ordinary veneer, and is subsequently scraped and polished. The two veneers which are cut out form the *buhl* and *counter*;* the one exhibiting, for instance, a dark ornament on a light ground, and the other having the same pattern with the colours reversed. In the same way three thicknesses of wood may be sawn out together, and these, when cut through, split asunder, and recombined, would produce three pieces of buhl-work. Such are technically known as *works in three woods*, and constitute the general limit of the thicknesses. The designs for such work should be as much as possible arranged to have a nearly equal amount of each colour, in order to make each of the combinations effective. In buhl-work no part of the material is wasted, and this is one of the great differences between it and marqueterie. Stamps or punches are sometimes used in buhl-work of brass and wood, but only to a limited extent. All kinds of wood that are capable of being cut into delicate veneers, may be used in buhl-work, according to the description we have just given, but the term was originally more particularly applied to a combination of brass with ebony, or dark-coloured tortoise-shell. These were the materials which Boule himself almost exclusively employed, and he sometimes engraved the surface of the brass. Reisner used principally as the ground tulip-wood (called in France *bois de rose*), inlaid with flowers in dark wood, grouped in a less crowded manner than in ordinary marqueterie.

"When the material is in small pieces and costly, as pearl-shell, it becomes necessary to use several pieces, accurately placed edge to edge, to cover the entire surface to be ornamented. Sometimes in this material, in order to give additional elaboration and minuteness, the saw is made to follow all the outline of the counter, and thus leave only a narrow line of pearl: this is called internal cutting." But the effect of the counter is seldom equal to that of the true buhl, which shows the drawing of the ornament better, and the internal cutting of the pattern presents rather a thready appearance. The *stringings*, or fine lines of metal, which are introduced with pearl buhl, are generally of a white metal, such as tin or pewter.

* The "partie" and "contrepartie" of the old French manufacture, of which the former is regarded by *cognoscenti* as much the most valuable.

PANEL IN BUHL BY FOURDINOIS OF PARIS

LONDON PRINTED AND PUBL. SHED DEC.R 15TH 1852, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE CXXVII.

CHINESE ENAMELS.

Amongst the specimens furnished by the Great Exhibition of the ingenuity with which the natives of the Celestial Empire have in times past cultivated the useful and ornamental arts, few were more interesting than those which form the subject of our present Plate; for the opportunity of inspecting which the public were indebted to the enterprise of J. Rutherford Alcock, Esq., Her Majesty's Consul at Shanghai. The objects in question formed a portion of the valuable illustrations of Chinese industry collected by M. de Montigny, the French Consul at the abovenamed port, who was warmly assisted in his scientific researches by the Roman Catholic Missionaries in the interior of China.

Unlike most of the processes in use in that country, the practice of enamelling, although now for the most part fallen into desuetude, appears to be referable to a comparatively modern date. We learn from a document published by M. Pauthier in his history of China,* that under the reign of Thaï-wou-ti, of the dynasty of Weï, which lasted from A.D. 422 to 451, a merchant of the country of the great Youë-tchi, or Scythians, came to the court of that Emperor, and proposed to manufacture in China those various-coloured glasses which had been previously imported from western countries, and for which excessive prices had been paid. In pursuance of his instructions investigations were made in the mountains, and the necessary materials for the manufacture were ultimately discovered. This merchant succeeded in making coloured glass of the greatest beauty, and from his time the price of such materials diminished considerably in China. It has been ingeniously concluded by M. Labarte† that the people referred to as Scythians were no other than the inhabitants of Persia.

However popular such decorative substances as coloured glasses may have been, we have no direct evidence of the use of vitrified materials as enamel pastes, until nearly one thousand years subsequent to the above-named period. Numerous specimens exist, resembling in their general characteristics the objects we now engrave, and possessing internal evidence of chronological identity with a few examples, which bear inscriptions by which the date of their fabrication may be ascertained with comparative precision. It appears highly probable that the finest of such objects were executed during the Ming dinasty; since the interesting specimen in the collection of Mr. A. W. Franks bears date from A.D. 1426 to 1436, and that of M. Debruge Dumesnil also furnishes indications of having been executed in the King-taï period of the above-named dynasty;—corresponding with the years A.D. 1450 to 1457.

So far as we are aware, the art of fabricating vessels such as those exhibited by Mr. Alcock is completely extinct, and it is therefore difficult to describe the precise method by which they have been executed.

It is, however, apparent that threads or ribbons of metal, probably copper, have been bent into fanciful patterns in the interior of a hollow mould, and the compartments formed by such bands have been filled up with enamels in powder, in a manner precisely similar to that adopted by the Greeks of the Lower Empire, and described in our first notice of the art of enamelling, Plate LI. The whole being fused together, the external mould was removed, and the number of portions requisite to make up the entire vessel having been completed, they were doubtless put together by soldering, and the introduction of more readily fusible enamels. The singular coincidence between the peculiar tints and textures of the vitrified pastes

* "Chine, ou Description de ce vaste Empire," page 237.

† "Description des Objets d'Art, qui composent la Collection Debruge Dumesnil, par Jules Labarte," page 392.

employed in Chinese enamels (particularly the turquoise, the deep blue, and the pale sea-green tints), and those of the early Limoges *champ-levé* enamels, is scarcely less striking than is the identity of the processes employed with those of Byzantium.

It appears that, in later periods, the art of enamelling in China underwent a series of transformations, agreeing in many respects with those which succeeded each other in Europe. Although of great rarity, specimens have been found which show that the art of covering engraved surfaces with translucid enamels was practised in China with scarcely less success than in Italy. The Louvre contains a remarkable example of the proficiency of the Chinese in such a manufacture; and we may hope, either from M. Stanislaus Jullien, or from Mr. Wade, Her Majesty's Vice-Consul at Shanghai, to be furnished ere long with some interesting particulars as to its execution.

The latest enamels of China, and those which are manufactured in the present day, correspond to a certain extent with the ordinary painted enamels of the late Limoges school; with the difference, however, that the paste which forms the groundwork of the Chinese enamels is almost invariably left of its natural white tint, and that it is applied to the surface of the copper in a much greater thickness. Whether its nature may be that of a pure vitreous enamel, or whether a considerable portion at least may not be composed of fine China clay, is a question which has not yet been decided by chemical investigation.

It is necessary to remark that specimens of filagree enamel, executed in a manner similar to that adopted in the objects we engrave, are of extreme rarity in Europe. Occasionally only, cups or drinking vessels were made, during the middle ages, in such a manner that, when held up to the light, the coloured enamels, separated from each other by threads of gold, present the effect of miniature stained-glass windows. An exquisite object of this description, in the possession of Henry Bevan, Esq., of Twickenham, has been engraved by Mr. Shaw; by whom it is ascribed to the fourteenth century, although we should have been inclined to refer it to a somewhat later period. It was bought by Mr. Bevan, at Antwerp, many years ago, and is probably the most perfect example in existence of that rare variety of the art, specimens of which were known in the Middle Ages as "esmaulx de plite à jour." The earliest existing instance of such work is probably the beautiful cup preserved in the Bibliothèque Royale at Paris, representing Chosroes, King of Persia (A.D. 531–579); and the peculiar nature of its manufacture affords a clue to the source from which the Chinese derived their processes.

M. Labarte cites, from the inventory of Charles V. of France, some interesting descriptions of such objects; as, for example, "Une très belle couppe d'or, et très bien ouvrée a esmaulx de plite à jour, et est le hanap d'icelle à esmaulx à jour. Ung coutel à manche d'ivyre, et a en la lemelle dudit coutel une longe roye à esmaulx de plite ouvrée à jour."

Benvenuto Cellini* gives an interesting description of the esteem in which this art was held by Francis I., who, in the year 1451, showed him a beautiful specimen of it; and who was pleased to ask him many questions as to the processes employed in its fabrication. Cellini explained in detail the method pursued, which he has likewise recorded for the benefit of his readers. "With this explanation," he informs us, "he entirely satisfied the desire of that generous sovereign to know such secrets; and spoke at length of such minute details of his art, because that sovereign greatly delighted to hear him discourse, and of which, but for that desire, he would have deemed it improper to fatigue such noble ears with so humble a discourse."

* "Trattato dell' Oreficeria," cap. iii.

H. RAFTER, DEL. M. DIGBY WYATT, DIREXT F. BEDFORD, LITH.

GROUP OF CHINESE ENAMELS.

LONDON. PRINTED AND PUBLISHED DECR 15TH 1852. BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXXVIII.

PAVEMENT IN ENCAUSTIC TILES,

BY MINTON AND CO. OF STOKE-UPON-TRENT.

It seems probable that the manufacture of encaustic tiles may have originated in the endeavour to imitate the Roman Mosaic pavements by means of coloured substances inlaid upon stone or marble. Of this work a few examples have escaped destruction, and may be seen on the eastern side of the altar-screen in Canterbury Cathedral, and at the Abbey Church of St. Denis, and the Cathedral of St. Omer, in France. There are a few specimens of pavements, both in England and France, which seem to form a transition from the marble mosaics to the tile pavements so universally employed during the middle ages. In these each tile is of a single colour, but they are so combined as to form a polychromatic pavement in regular geometric designs. Such pavements existed at Fountains Abbey, Yorkshire;* also at Ely, where the tiles presented a great variety of form and size; and although the patterns were principally formed by the outlines of the tiles, other lines were sometimes impressed upon them to carry out the details of the design. The most elaborate example of such a pavement is that of the Prior's Chapel, built by Prior Crauden, A.D. 1321–1341.†

Amongst the earliest specimens of ornamented glazed tiles may be mentioned those discovered in the ruined Priory Church at Castleacre, Norfolk, some of which are preserved in the British Museum; they are coarsely executed, and the pattern which is impressed upon them is not filled up with any other colour.

The manufacture of encaustic tiles with more than one colour cannot probably be referred to a more remote date than the beginning of the thirteenth century; and one of the earliest and most beautiful specimens of the art is that of the pavement in the Chapter House at Westminster.‡ We have sufficient authority for referring this pavement to the date of the building itself, in an order of Henry III., "quod Parvam capellam apud Westm. tegula picta decenter paveari faceatis."§ The process of the manufacture may be thus briefly described; upon the quarry of red clay, partly hardened in the sun, the design was impressed by means of a stamp cut in relief, and the cavities thus formed were usually filled up with a whitish clay, sometimes of so thin a consistency as when dry scarcely to fill up the hollows; the tile was then thoroughly dried and burnt in a kiln, after which it was faced with a metallic glaze, which gave a yellow tint to the white clay, and imparted a richer colour to the red. Three ancient kilns have been discovered, which it is considered were used for baking pavement tiles. The first was found near Great Malvern,‖ and probably supplied the tiles used at the rebuilding of that Abbey Church about the middle of the fifteenth century. Another kiln was discovered near Droitwich, with a number of tiles in it identical with specimens existing at Worcester Cathedral, and at Malvern. The site of the third kiln is in Staffordshire, near Great Saredon, adjoining the Watling Street. It would, however, appear that the manufacture of encaustic tiles was usually carried on in every abbey or religious house whose lands contained the proper description of clay. This will in some measure account for the great variety of design which is to be met with; more than one hundred varieties existing at Malvern alone.

* Published in 1800, by William Fowler, of Winterton. † Also engraved by Fowler.

‡ For parts of this pavement, see "Examples of Decorative Tiles," &c., by John Gough Nichols, F.S.A., London, 1845, where also a great number of other beautiful specimens of art are engraved.

§ Rot. Claus. 22 Henry III. m. 19 (A.D. 1237–38).

‖ A representation of this kiln, with a description by Harvey Eginton, Esq., may be seen in Dr. Card's account of the church.

The subjects of the designs may be divided into several classes:—those embodying sacred symbols; inscriptions, being verses of Scripture or pious maxims; armorial bearings of the sovereign or individual connected with the church by benefactions or otherwise; personal devices or mottoes; and ornaments conformable to the style of architecture, but without any special meaning. Of these the representations of armorial bearings are the most interesting, as frequently affording valuable evidence or illustration of the descent of property. At Great Malvern, a series of heraldic tiles illustrate the descent of the Chase and Manor of Malvern.* Several instances have been met with of inscribed tiles having been used, instead of the usual incised stone slabs, to mark the place of a grave beneath the floor of a church. Such an example occurs in the Lady Chapel at Gloucester, also at Kirkstall Abbey. In one, we believe unique, example in England, at Lingfield Church, Surrey,† a monumental slab is formed with three large tiles, on which a figure is represented by incised lines, not however filled in with a different colour; there is an inscription, but illegible, on the margin. The whole is covered with a greenish glaze, and, judging by the costume of the figure, the work may probably be referred to the early part of the sixteenth century. Another application of encaustic tiles occurs at Great Malvern, and is illustrated by Mr. Nichols. He says,—"Some very remarkable series of tiles are those to which the distinctive term of *wall-tiles* has been applied. These were intended as a decorative facing to the walls, and their patterns are so disposed as to be arranged in upright bands, which when united compose a rich decoration, similar in effect to the tabernacle-work, or carved tracery of wood, in place of which these tiles were undoubtedly intended to be used, either as a reredos of the altar or enrichment to the walls of the choir. No similar example of the application of ornament of a fictile nature to the interior decoration of a church has hitherto been noticed in England or on the Continent." The tiles composing the larger set bear the date 1453, and the series consists of five tiles with three varieties of the base. The other set is dated "Anno regni Regis Henrici VI. xxxvj." (1456), and is also composed of five tiles.

Besides these examples, a great variety are to be found in Winchester, Gloucester, and York Cathedrals, and in the Churches of St. Cross, Rumsey, Warblington, Tintern, Bredon, Tewkesbury, &c. It is not, however, to be supposed that the use of encaustic tiles was entirely confined to ecclesiastical buildings, as several examples have been found of their introduction into domestic architecture. A fine pavement was discovered in the housekeeper's apartment at Windsor Castle;‡ also in the ruins of the royal palace of Clarendon, near Salisbury, and in the ancient palace of Westminster. We may also allude to the remarkable specimens in the hall and guard-chamber of the Ducal Palace, at Caen,§ portions of which are now in private possession in this country.

Little is known of the ancient arrangements of tile-pavements, owing to the imperfect state in which they have, with one or two examples, been found. The pavement of the chantry chapel, on the north side of the choir in Tewkesbury, deserves attention on this account:‖ the panels are arranged in lozenge fashion, surrounded by a single row of plain black tiles. Another example is in the chantry called the Founder's Chapel. The most striking specimen,¶ however, is that before the high altar at Gloucester Cathedral, by Abbot Sebroke, 1454–57. This pavement was perhaps rivalled by those of Hailes Abbey, in the same county, portions of which still exist at Southam House, the seat of the Earl of Ellenborough, near Cheltenham. In the latter part of the sixteenth century, the manufacture of encaustic tiles upon the system described was superseded by the introduction of the glazed tiles, in which various colours were introduced on the surface. This art had been employed for some time previous on the Continent, but a single specimen only was to be met with in this country, namely, in the Mayor's Chapel at Bristol, the tiles there used having been imported from Spain.

Messrs. Minton, to whom so much credit is due for the revival and improvement of the fictile arts, have combined in their manufacture both the old system of the encaustic tiles and the subsequent plan of a surface glaze, and both these varieties are exemplified in the subject of the Plate. The processes of the manufacture have been, however, so much improved, that almost any shade of colour can be given to the clay employed, which no longer requires a glaze for protection, this being reserved to produce the more brilliant colours desired. When so used, it is introduced into a sunk pattern in the tile, and is thus protected from the wear to which in a pavement it must otherwise be subjected. Our limits will not permit us to trace the efforts of Messrs. Minton and Mr. Wright in the revival of this beautiful manufacture, but the increasing demand for such objects sufficiently proves that those efforts have been crowned with signal success.

* These are engraved in the work of Mr. John Gough Nichols.

† Engraved and described in the "Archæological Journal," 1849.

‡ See Jesse's "Windsor Castle."

§ Described by Ducarel, in his "Tour in Normandy."

‖ Represented in Carter's "Ancient Architecture," vol. ii. plate 27.

¶ Represented in Carter's "Ancient Sculpture and Painting," plate 17.

PAVEMENT IN ENCAUSTIC TILES BY MINTON & Co OF STOKE-UPON-TRENT

M DIGBY WYATT. DIREXT

F BEDFORD

LONDON PRINTED AND PUBLISHED DECR 15TH 1852 BY DAY & SON LITHOGRAPHERS TO THE QUEEN.

PLATE CXXIX.

PORTIONS OF STOVES,

DESIGNED BY A. STEVENS, FOR HOOLE, ROBSON, AND HOOLE, SHEFFIELD.*

We have already, on different occasions, adverted to the antiquity of grates and stoves, and to the excellence attained by modern manufacturers of those essential domestic comforts. Of the latter fact our present Plate furnishes another agreeable illustration; and cannot but tend to confirm the reputation already acquired by the gentlemen concerned in its production. Without adding to our previous remarks on objects of this description, we shall proceed to complete our notices of the general manufactures of Sheffield.

The history of the Sheffield trade, and the processes involved in the manufacture of steel goods, have been sketched in the articles XCIX. and CXXII. We shall now, in the same brief manner, advert to the production of plated goods; which divides with cutlery the chief attention of the local manufacturers.

The art of overlaying one metal with another of greater value is of considerable antiquity. In the year 1403 (temp. Henry IV.) an act was passed to prevent deception in putting off gilt or plated locks, rings, beads, candlesticks, harness for girdles, chalices, sword-pummels, powder-boxes, &c. for solid metal; all such workmanship upon copper or latten being prohibited, except in certain ornaments for the church, of which some part was to be left uncovered to show the copper or brass, "to the intent that a man may see whereof the thing is made, for to eschew the deceit aforesaid."† One of the methods more recently and generally adopted for silvering copper or brass depended upon amalgamation. Pure silver being dissolved in aquafortis, and precipitated, was mixed with sal ammoniac, and other substances, and the mixture was ground into a paste. With this the article to be silvered was rubbed over, and then exposed to a sufficient heat to allow the silver to run. Another common process was termed "French plating;" the article being made red-hot, leaf silver was laid upon it, and immediately burnished down, the heat and friction causing it to adhere. There are other scientific processes, not to mention electrotyping, by which metallic articles may be coated with gold or silver, but in all the methods formerly practised the objects were completely formed and finished before being subjected to such operations; whereas, on the Sheffield system, the silver is incorporated with the inferior metal before the goods are made up.

We cannot better elucidate the origin of the discovery, which has led to such important commercial consequences, than by the words of the learned historian of Sheffield.‡ "The year 1742," observes that gentleman, "is memorable in the history of Sheffield for the introduction of a new manufacture, which has become a formidable rival to the ancient and staple manufactures of the neighbourhood, or rather an effective auxiliary in advancing the town to the rank it now holds among the commercial towns of this great empire. It was in that year that Mr. Thomas Bolsover, an ingenious mechanic, being employed to repair the handle of a knife, which was composed partly of silver and partly of copper, was struck with the possibility of uniting the two metals, so as to form a cheap substance which should present only an exterior of silver. He began a manufacture of articles made of this material, but confined himself to buttons, snuff-boxes, and other light and small wares. It was reserved for another member of the corporation of cutlers, Mr. Joseph

* We regret that an error occurred in the style of the above firm as engraved upon Plate XCIX. A similar mistake was accidentally committed in Plate CI., the objects shown in which were produced by G. Wostenholm and Son, of Sheffield.

† "Statutes of the Realm," vol. ii. p. 147, folio. 1817.

‡ The Rev. Jos. Hunter, F.S.A. See "History of Hallamshire."

Hancock, to show how successfully it was possible to imitate, by this process, the finest and most richly embossed plate. He employed it in the manufacture of candlesticks, teapots, waiters, and most of the old decorations of the sideboard, which, previously to his time, had been formed of wrought silver. The importance of the discovery now began to be fully understood; various companies were formed; workmen were easily procured from among the ingenious mechanics of Sheffield; while the streams in the neighbourhood furnished opportunities of erecting mills for rolling out the metals. Birmingham early obtained a share in this lucrative manufacture;* but the honour of the invention belongs to Sheffield, as it is supposed to stand unrivalled in the extent to which the manufacture is carried, and the elegance and durability of its productions."

The method of "plating" metal discovered by Bolsover is as follows:—An ingot of pure copper, or of copper alloyed with brass,† is first made. Upon one surface of this ingot, which is twenty inches long by three inches broad, and one inch and a half thick, a sheet of silver, about one-fortieth of the thickness of the ingot itself, is laid; the two are tied together with wire, touched at their edges with a little borax, to act as a flux, and exposed to the heat of a furnace, by which they are firmly united. "This compound ingot is afterwards laminated in a rolling mill to a thin sheet; and the sheets so formed are brought into ornamental forms by stamping, punching, hammering, and other mechanical processes; the copper foundation forming the substance of the article, and the silver side the exterior surface."‡ Articles which are termed "double-plated," are formed of plates to which silver has in like manner been affixed on both sides.

The operations carried on in a plating factory may be distributed into six or seven departments, which, in large establishments, are conducted separately, several of them embracing other subdivisions of skill and labour. Of these die-sinking is the first, and perhaps the most important. The dies employed for stamping the metal into the requisite forms are infinitely varied, more than twenty being required for an object so simple as an ordinary bed-candlestick; and being necessarily of steel, they are very costly. Besides the operation of stamping; pierce-working, or punching, is employed in the formation of some articles. Braziering consists in soldering the different parts of certain objects together, and hammering others into the desired shapes; and this department involves a great amount of mechanical skill. Candlestick-making is another distinct branch of the plating-trade, and one in which the lathe is the principal instrument employed. The articles, when formed by the processes we have thus mentioned, are finished by chasing, embossing, and burnishing.

The beautiful appearance of plated articles, and their economy, soon brought them into extensive use; but, for a considerable time, they were liable to a serious objection; after some time the silver surface wore off the more exposed portions, and the copper became visible; or, as the workmen expressed it, "Alexander showed his face." To remedy this evil, Mr. Roberts, of Sheffield, obtained a patent in 1824, for a mode of preparing and affixing to such articles what are now familiar to all as "solid silver edges." By this process a sheet of silver is rolled very thin, and stamped into the form of the various ornamental edges and other parts of candlesticks, &c., the hollow behind is filled with solder, and the edges are then soldered on to the goods.

Whilst the manufacture we have thus described has placed a beautiful and excellent material within the reach of persons of moderate means, the humbler classes have been equally benefited by the introduction of "Britannia Metal," which has entirely superseded the pewter so long employed for domestic purposes. This composition is remarkable for its lightness, ductility, and cheapness. It was first employed on a large scale about the year 1770, by Mr. Jessopp and Mr. Hancock, of Sheffield, and its ingredients are thus described by an excellent authority:§—Three and a half cwt. of best block tin, twenty-eight pounds of martial regulus of antimony, eight pounds of copper, and eight pounds of brass. It is cast into ingots, and then rolled into sheets, from whence an immense variety of articles—teapots, coffee-pots, candlesticks, measures and other vessels, forks, spoons, &c.—are produced with the utmost facility from cast-iron, or even brass dies, worked in a similar way to the steel dies used for plated goods, as well as by a peculiar operation called *spinning*, or in the lathe. The material is one of the most tractable of substances to work from the sheet, as well as one that runs most readily in moulds; spoons being cast from brass moulds by thousands. Moreover, it is cut most freely by the turner. Such a combination of advantages fully accounts for its universal popularity and usefulness.

* We have elsewhere observed ("Journal of Design," vol. ii. p. 11) that the plate-workers of Sheffield met with formidable rivals in the late Mr. Boulton and Sir Edward Thomason, as they do in the successor of the latter, Mr. Collis.

† With pure copper fine silver alone can be used; whereas with copper and brass, standard silver is sufficiently fine, and the alloy may be operated upon by the lathe when pure copper may not.

‡ Dodd's "British Manufactures,"—Metals, p. 196.

§ Mr. Holland, author of the "Treatise on the Progressive Improvement and Present State of Manufactures in Metal," vol. iii. p. 103.

A STEVENS FOR HOOLE ROBSON & HOOLE OF SHEFFIELD

PLATE CXXX.

CRADLE, CARVED IN BOXWOOD,

BY ROGERS OF LONDON, FOR HER MAJESTY THE QUEEN.

We have now the gratification of presenting to our readers one of the most pleasing revivals of the Cinque-cento style of wood-carving which has yet been executed in England. This beautiful work has been produced by Mr. William Gibbs Rogers, from the design of his son, Mr. William Harry Rogers. The name of the former gentleman must be familiar to all admirers of the art he practises, and it is to be hoped that he may long continue to maintain his hard-earned reputation. From his youth, when studying in the *atelier* of D. M'Lauchlin, of Printing House Square, and under the influence of Richard Birbeck, of Stamford, the last descendant of the workmen who were formed in the school, and under the eye, of Gibbons, Mr. Rogers laboured hard to emulate the glories of the last-named artist; and how admirably he has succeeded, his numerous works, executed in all parts of the country, unmistakeably show. Among the principal decorations upon which his elegant taste and perfect manipulation have been lavished, may be enumerated the fittings up of the Church of St. Mary-at-hill, in the City; the enrichments of the dining-room of the Prince de Moskowa, at Paris; those of the Pavilion, at Brighton; Chatsworth, Wentworth, and Stafford Houses; the suite of apartments at Kensington Palace, in the occupation of the late Duke of Sussex; and those of many of the mansions of the nobility and gentry throughout the country. Among all his elaborate productions there are, however, none to the execution of which he may justly look back with a more honest pride than to that of the elegant object we engrave.

In our notice of Plate LXII., we adverted to the carved decorations of ancient *ecclesiastical* buildings; and we may now observe that the *domestic* edifices of old England afford equally interesting examples of the art. To the latter class of buildings, indeed, belong the magnificent roofs of the halls of Westminster, Hampton Court, Eltham, Croydon, Lambeth, and many other palaces, mansions, and collegiate edifices. These magnificent apartments also present much beautiful carving in their screens and galleries. Figures of angels were introduced in the roofs of domestic buildings in the same manner as in churches. Mr. Shaw has engraved some interesting specimens of ancient carved furniture, including a chest in oak, of the period of Henry III. The cradle of Henry V., engraved by the same gentleman, furnishes a curious contrast with our present subject. Several carved reading-desks, and chests of the fourteenth and fifteenth centuries, are preserved in different English churches; and some beautiful chairs of equal antiquity may be seen in St. Mary's Hall, Coventry, at Evesham, and elsewhere. It was not, however, until the sixteenth century that carving was extensively applied to the decoration of furniture. The cabinets, cupboards, buffets, tables, bedsteads, &c., of that era, have been ably illustrated by Mr. Shaw; whilst Mr. Joseph Nash and Mr. C. J. Richardson have displayed equal taste and ability in their delineations of the staircases, chimney-pieces, ceilings, panelling, and other carved details of Tudor and Elizabethan mansions. A passing word is also due to the fine timber-framed houses which add so picturesque a charm to the cities of Chester, York, Canterbury, Gloucester, Shrewsbury, &c., presenting much elaborate and beautiful carving, especially in the barge-boards which decorate their gables. Many of these have been engraved from the careful drawings of Mr. B. Ferrey.

It would be an endless task to refer to the varied characteristics of the carvings of the time of Elizabeth

and James, overloaded, as they gradually became, with the most incongruous details. The very profusion of these enrichments rendered more acceptable that return to natural types which was effected with so much ability by the genius of Grinling Gibbons, to whose merits we can scarcely be expected to do justice in our limited space. Walpole is inclined to believe the statement that he was born in Holland of English parents, and educated in that country till his nineteenth year; and certainly he would there have enjoyed remarkable facilities in the study of the works of the great Flemish carvers; it is, on the other hand, asserted that his father was a Dutchman, and that the artist himself was born in Spur Alley, in the Strand, London. Be that as it may, we at least know that in the year 1671 he was found by Evelyn, during a casual walk, near Deptford, engaged in carving a relievo from a large cartoon by Tintoretto. Impressed with the extraordinary talent he displayed, Evelyn at once introduced Gibbons to King Charles II., who also admired his work; but, when it was submitted to the Queen, we are told by Evelyn that "a French peddling woman, who used to bring baubles out of France for the ladies, began to find fault with several things in it, which she understood no more than an ass or a monkey. So, in a kind of indignation," Evelyn caused the work to be removed from the palace, and it was afterwards sold for 80*l.*, though "it was well worth an hundred without the frame." Subsequently introduced by his patron to Sir C. Wren, Gibbons executed the noble works by which he is so well known at Windsor, Hampton Court, and St. Paul's Cathedral.* His finest productions, however, we need hardly say, are to be found at Chatsworth, Petworth, and Burleigh; but scarcely less beautiful examples of his skill are preserved at Houghton, Southwick, Hants, and Trinity College, Oxford. In 1714 Gibbons was appointed Master Carver in wood to George I., at a salary of 1*s.* 6*d.* per day; and he died in Bow Street, Covent Garden, on the 3d of August, 1721. The characteristics of Gibbons' style of carving are too familiar to need any comment. Many Flemish carvers were employed under Gibbons, at St. Paul's. Selden, his favourite disciple and assistant, lost his life in the act of saving from destruction by fire some of the carvings at Petworth; and Samuel Watson, another of his assistants, was so extensively employed upon the works at Chatsworth, that he received, in one sum, no less than 342*l.* Lysons and Dallaway have, in fact, doubted whether all the carvings at that place should not be ascribed to him; but, arguing from their excellence and the obscurity of Watson, Mr. Cunningham† ascribes the whole of the designs, and much of the carving, to the hand of Gibbons.

Mowatt, a French sculptor, who worked after Gibbons, and whose freedom of touch was most remarkable, deserves to be honourably mentioned. The pulpit in St. Paul's, with some chimney-pieces, &c., at Windsor Castle, were executed by him. During the reign of Queen Anne, wood-carving of considerable merit was employed, on tables and other small furniture, in connexion with buhl and ormolu work. Chippendale, a carver and cabinet-maker in the time of George I., failed, however, in an attempt to unite the style of Gibbons with the debased characteristics of the age of Louis XV. Some Flemish carvers worked in England about a century ago, and the royal state coach, designed and carved by Joseph Wilton, the sculptor, is a favourable specimen of the art. Mr. Hendrie, however, is, we think, fully justified in his observation that "no name stands between those of Gibbons and Rogers, in the history of the grand, or architectural, style of the art."‡

* For the carvings in the choir of St. Paul's he received 133*l.* 7*s.* 5*d.*, and for the throne in Canterbury Cathedral, 70*l.*

† "Lives of the British Sculptors," &c.

‡ "Journal of Design," vol. iv. p. 138.

H. MAYE, DEL.

M. DIGBY WYATT, DIREXT.

F. BEDFORD, LITH.

CRADLE CARVED IN BOXWOOD BY W. G. ROGERS, OF LONDON

LONDON PRINTED AND PUBLISHED DECR 15TH 1852 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXXXI.

DECORATION OF A BOX OF WATER-COLOURS, &c.

EXHIBITED BY ACKERMANN AND CO. OF LONDON.

This contribution by Messrs. Ackermann to the Great Exhibition affords an agreeable and somewhat rare illustration of the felicity with which those who supply materials to artists may themselves be benefited in return, by the exercise of those very studies to the prosecution of which they minister the material requisites. The name of the firm in question has now, for very many years, been intimately connected with the developement of the Fine Arts in England; and we shall scarcely be assigning too much credit to a single individual, if we record our opinion that, but for the energy and taste of the late Mr. Rudolph Ackermann, the illustrated literature of England would have been in a far less elevated position than it has assumed in the present day. Connected as his name was with the principal illustrations of art and elegant accomplishments, from the commencement of his well-known periodical, the "Repository;" connected especially with Orme, in his exceedingly popular work on Transparencies; with Rowlandson, in the "Microcosm," and other works; with Nash, Pyne, and Pugin, in their architectural illustrations and designs; with the whole series of Annuals, through his publication of the foremost of them all, "The Forget-me-Not;" and possessing a peculiar claim to our respect as having given to the world the first English translation of Senefelder's work on Lithography; we cannot but believe that the influence of Mr. R. Ackermann materially contributed to the dissemination of a general sympathy for objects in which tasteful and artistic design constitutes a leading element. Contrasted with the elaborate works which now issue daily from the press, some of the illustrations with which he was associated may appear imperfect and inferior; but when we compare them with the pretentious deficiencies of Boydell, or the artificial insipidities of Lackington and the "Temple of the Muses," we cannot hesitate to ascribe to them a very high degree of merit.

It is a gratifying circumstance to find that the distinguished career of this true patron of art and artists is no less worthily pursued by his descendants; whose productions were not only rewarded by a Prize Medal in the Great Exhibition, but constantly receive a yet higher meed of approbation in the estimation and substantial encouragement of the public.

One of the subjects which, more than half a century ago, deeply absorbed the attention of the late Mr. Ackermann, was the preparation of water-colours, and the success which he attained in that important department of his business was warmly appreciated by artists such as Girtin, Sandby, Turner, Havel, and others,—the fathers of the essentially national art of painting in water-colours. The object which we now engrave is the cover to a magnificent case, containing specimens which not only serve to show that all the perfection attained by the late Mr. Ackermann has been preserved by his successors, but to illustrate the effect with which modern science and commercial enterprise have combined to enrich with more varied and glowing tints the resources of the painter's palette.*

* The case, which measures thirty-one inches by twenty-two, and fifteen inches in depth, contains 100 cakes of water-colours; which, with about twenty more, constitute the complete series manufactured by Messrs. Ackermann. An easel, a sketch-book, a choice assortment of sable brushes, ornamental alabaster slabs for mixing the colours, with various other implements, all elaborately and carefully prepared, complete the contents of the case. The handles and escutcheons are gilt, and the colouring and enamelling of the exterior have been executed by Mr. Davis, from the designs of Mr. Sleigh.

The limits of our present notice preclude the possibility of our indicating the materials of which Messrs. Ackermann's colours consist, or the processes upon which, in common with those of other manufacturers, their admitted excellence depends. We may, however, convey to our readers some idea of the extensive agencies which are called into operation, to supply, from the remotest countries of the globe, the ingredients necessary for their composition. Thus, from Saxony we obtain those delicate blues known as cobalt and smalt. Lapis lazuli, from which the costly and beautiful ultramarine is extracted, is found in Siberia and Persia, though an artificial ultramarine is manufactured in France and Germany; and indigo is brought from the East Indies and Central America. England, Germany, and China, yield the fine qualities of vermilion; whilst carmine is prepared from the minute cochineal insect of Central America and Mexico. For a long period France possessed the greatest proficiency in the preparation of the latter pigment, but the manufacture is now successfully carried on in England. The best madders are derived from Germany and Holland; the beautiful class of colours called chromes are produced in Siberia; whilst ochres of almost innumerable tints are found in most parts of the Continent, and in some districts of England and Wales. Sepia is extracted from the cuttle-fish, and China boasts exclusively of its matchless "Indian" ink. Blacks are mostly calcined from ivory, bone, or the tendrils of the vine, and other light woods. Gamboge is brought from America and the East Indies. Browns are obtained chiefly from bituminous deposits; but amongst them may be noticed that singular pigment, mummy, derived, as its name implies, from Egypt.

Many interesting additions to the colours previously known were, for the first time, presented to the public on the occasion of the Great Exhibition, and to these we cannot have a better guide than Mr. William Linton, whose work on "Ancient and Modern Colours, from the Earliest Period to the Present Time,"* is a most elaborate and valuable publication. Mr. Linton observes, that "among the novelties in this department of production was a large collection of native Indian ochres, sent by the Honourable East India Company, of every variety of tint, from the yellows and browns common to the ochres of European districts, to the pinks and purple reds which are less known as pigments, and chiefly found in countries believed by geologists to be of an igneous origin. There were other collections of ochres, also, from Canada and Trinidad. Several varied tints of green ultramarine were exhibited; durable transparent colours, well adapted for the palette, among which was an excellent permanent substance for Prussian and Antwerp blue. There were many other mineral colours of great use and beauty; as greens prepared from zinc and cobalt; a new bright yellow, chromate of cadmium; a subdued orange from cerium; a red from palladium; a beautiful rose pink and deep rich purple of varied hues from cobalt; a brown from iron; a new white from lead (Pattinson's oxichloride); and several more, of whose existence few had previously known; a series of beautiful silicates from the Potteries; various new colours made with zinc; also rich and powerful glazing colours, chiefly greens, browns, and yellows, prepared with fatty acids; and an artificial ultramarine blue, of the prismatic hue, from Alsace, resembling the finest lapis lazuli, and responding to the same chemical tests; an acquisition of whose value an estimate may be formed, from the fact, that a fine quality of the native pigment, such as is usually sold in the shops at *five guineas* the ounce, was exactly matched by the above example, the manufacture of which (having been repeated with the most perfect success) would be amply remunerated at half that number of *pence* for the ounce."

It would be improper to close our present remarks without alluding to the taste displayed by Mr. Sleigh in the composition of the design we have engraved. Some of the most successful plates given in this work bear ample testimony to the ability and talent of that gentleman; and it will be at once acknowledged that, in the object above described, he has displayed considerable powers as an original designer, in addition to those which have long since gained for him a high degree of reputation as a lithographic artist.

* Longman and Co. 8vo. 1852.

SOCIETY

PLATE CXXXII.

AXMINSTER CARPET,

BY JACKSON AND GRAHAM OF LONDON.

The firm by which this admirable work has been produced has been long extensively engaged in business as furnishing upholsterers. Within the last seven years its taste and enterprise have been applied to the manufacture of carpets, with a success of which the present specimen is a striking illustration. Messrs. Jackson and Graham have produced numerous carpets of a similar kind to that before the reader; some of them remarkable, not only for their excellence in design and execution, but for their great size, being woven entire and without a seam. M. Eugène Prignot, a gentleman connected with their establishment, has in most instances furnished the designs for these works; but they have also availed themselves of the talents of other artists, both in London and in Paris. Mr. Peter Graham, a member of the firm, was one of the jurors in Class XIX. of the Great Exhibition, and in that capacity supplied much valuable information to Mr. Birkin of Nottingham, the Reporter to the Jury; and his official position necessarily deprived his establishment of that honorary reward which it would otherwise have unquestionably received.

In our notice of Plate CVIII. we adverted to the early substitutes for carpets in this country; and we shall be enabled, in the present and a future article, to give some general description of the different kinds of carpets which are now employed, and the processes involved in their production. In reference, however, to the carpets of Persia, India, and Turkey, we may, in the first place, adopt the valuable remarks of Dr. Royle, whose comments on the "Arts and Manufactures of India" have been so frequently referred to in this work. That distinguished writer refers the common use of small carpets or rugs in Oriental countries to the practice incident to the climate of sitting in the open air under the shade of trees; and he adds that "carpets, either of cotton, silk, or woollen, are employed in all Eastern countries, from the south of India to Turkey in Europe, for kneeling on at prayers, and for occasions of state." Carpets for the floors of apartments seem to have been first employed in Persia; and those called Turkish probably came originally from the former country, whence the manufacture may have been introduced into Turkey. Dr. Royle informs us that "printed calicoes of large size, and suitable patterns, are sometimes used for covering floors in India; and some fine specimens were sent to the Exhibition from Ahmedabad and from Mooltan; but the most common carpets employed are those made of cotton, and called *sutrunjees*, being of different colours, usually blue and white, or red, or orange, in stripes, squares, and stars; some of large size, and well suited for halls and tents. They are thick and strong in texture, the two surfaces alike, smooth and without pile. Good specimens were sent from Moorshedabad and Rungpore, some coloured kinds from Agra, and a large one, woven in one piece, from Ahmedabad. Another kind of cotton carpet is that with a pile of cotton, and similar in appearance to a Turkey carpet. Of this kind two specimens were sent from Sasseram, the ground being white, with a blue centre and border." Some very exquisite Indian carpets, made entirely of silk, were displayed in the Great Exhibition. That contributed by Maharajah Goolab Sing "was as beautiful a specimen of variety in the pattern, and brilliancy in the colouring, as well as of pleasing harmony in its general effect, as any in the building." Smaller silken carpets were contributed from Mooltan, Tanjore, Hyderabad, and Khyrpore. Woollen carpets and rugs from Mirzapore (the most famous seat of the manufacture), Goruckpore, Bangalore, Ellore, &c., were also forwarded to the Exhibition; and our readers will not forget the large carpet made by the reformed Thugs in the Government School of Industry at Calcutta.

We are told, in the Report of the Jury on these fabrics, that the loom commonly used in the East "consists of two perpendicular pieces of wood, fixed at some distance apart; which support a beam or roller at the top, upon which the warp is wound; and about two feet from the floor is another similar beam, upon which the carpet is rolled as it is made. The work is done entirely by hand, and the pile is formed by ties or short pieces of yarn, each of which is passed across the face and round the back of two warp-threads, having its ends drawn up between them. When a row of ties is completed, a shed is formed in the warp, and the shoot is then passed across from right to left and returned, binding the whole together. Upon this plan carpets of the largest dimensions are made in one piece. The number of shades or colours that can be used is unlimited, and any design can be copied with great accuracy." A model and drawing from Hoonsoor represented five weavers, seated before the perpendicular Indian loom; and a foreman seated, with book in hand, apparently giving directions as to the production of the necessary pattern.

Those which are denominated Axminster carpets, to which class the specimen we engrave belongs, are made precisely upon the principle, and much in the same manner, as those above described; as also are those of the Gobelins, of Aubusson, and of Tournay; and these, as is well known, constitute the most costly and magnificent productions of the kind in Europe. Axminster carpets were made in London by a Mr. Moore so early as the year 1757, when that gentleman obtained the premium offered by the Society of Arts for the best imitation of "Turkey" carpets. But the most successful specimens produced before the end of the last century were manufactured by Mr. Whitty, who carried the art to great perfection in the town in Devonshire whence it derives its name. About twenty years ago, however, the manufacture ceased to exist at Axminster, and has since been chiefly carried on at Wilton and in London.

Carpets of this kind are made entirely by the hand-loom, from designs carefully prepared upon ruled paper. The warp consists of linen yarn, which is arranged vertically in the loom. The weaver twists a coloured worsted yarn round two of the warp-threads, and then cuts it off with scissors, so as to leave two loose ends; repeating the operation with differently coloured threads, according to the pattern. When a row of these tufts is completed, he throws two shoots of linen across the web, exactly as in the Oriental process, to keep them in their places, and to strengthen the fabric. The ends of the tufts are then dressed, and cut or sheared, in such a manner that the linen which forms the foundation of the work is completely hidden from view. Every carpet is made in one piece, and the substance and strength of the fabric render it exceedingly durable and impervious to damp; whilst its capability for the production of the most elaborate patterns, comprising any number of colours, or shades of colour, is limited only by the skill of the artist and the manufacturer. We need hardly observe that the process of execution is slow, and that these beautiful carpets are necessarily expensive, and the demand for them limited accordingly. Messrs. Jackson and Graham state that they have made some specimens "with between five and six hundred different shades of colour, and with ten thousand ties or stitches in the square foot." In the Great Exhibition those gentlemen had a loom at work which excited much attention, and at which they made some small but very beautiful carpets for the Queen of Spain. The work is executed by girls, from eleven to seventeen years of age; Messrs. Jackson and Graham employing, on an average, about forty of these young persons. In the remarks with which they have kindly favoured us, they observe, that "those who are quick and intelligent become proficient in about six months; but" (as indeed is quite obvious) "it is only the most intelligent and experienced who can be trusted with the finest class of work, in which many shades of colour are used."

In a future article we shall advert to the Kidderminster, Brussels, Wilton, and other ordinary kinds of carpets.

M. DIGBY WYATT DIREXT.

T. MORRIS, LITH.

AXMINSTER CARPET BY JACKSON & GRAHAM.

PLATE CXXXIII.

THE HOURS LEADING FORTH THE HORSES OF THE SUN,

A BASSO-RELIEVO BY GIBSON OF ROME.

In the remarks with which we accompanied our illustration of Mr. Gibson's beautiful statue of "The Hunter" (Plate XVII.), we offered a few particulars of the career of that distinguished artist, and promised, on a subsequent occasion, to illustrate the leading principles of the art of sculpture in relief in connexion with another of his exquisite productions. The skill in composition, and the consummate knowledge of the resources of his art, displayed by the sculptor in the work we now engrave (on the possession of which the Earl Fitzwilliam may well be congratulated), manifest in the highest degree strong natural genius, corrected by an intimate acquaintance with the rules and limitations prescribed by severe study and refined taste.

Current as are the terms employed to designate the varieties of relief in sculpture, it is but rarely that their meaning is thoroughly apprehended, either by those who make use of them or by those to whom they are addressed. Until Sir Charles Eastlake* directed his attention to the subject, the precise conditions and terms of the art were but indefinitely classified; and — in English literature, at least — it is to him that we are indebted for the earliest satisfactory exposition of their meaning.

We may, perhaps, most readily convey their signification to our readers by describing the various degrees of relief as follows: — *Alto-relievo* consists of any figures or objects, modelled in the round, as far as possible, upon the same plane; and either completely detached, or but partially attached, to a wall placed behind them, upon which the shadows cast by them may be projected. *Mezzo-relievo* supposes figures so modelled to be pressed, to the extent of one-half of their depth, into whatever background may be applied to them. In *basso-relievo* we may suppose this quality of elasticity imparted not only to the wall, which admits of the insertion of the figures, but to the figures themselves; all the parts of which are in regular gradation, flattened down to considerably less than their natural projection; the contours or outlines of the object remaining the same as those exhibited in mezzo-relievo. *Bassissimo-relievo* is little more than a variety of drawing; the outlines being traced in the full proportion and rotundity of nature, while the extent of projection is reduced to a merely nominal thickness; the expression of the whole depending mainly upon the precision of the various contours.

It must be obvious from these definitions to how great an extent those fore-shortenings which the unrestrained action of figures presents, must be qualified by the conditions of a necessarily parallel projection. The art of the sculptor in such compositions consists, therefore, in the first place, in selecting such attitudes and dispositions of accessories as may retain the main lines in strict accordance with the surface which forms the background of the work. The necessity of placing the principal figures upon the same plane renders an almost complete isolation of each figure necessary for the purpose of distinctness; and it is only by binding the main lines in regular geometrical figures, that unity of action in the various parts of the composition can be preserved. In designing for relief, every part of each object must be exhibited. An arm cannot without deformity be hidden by a body, nor can one leg be concealed behind another. This necessity of exhibiting all the leading portions of the figure makes it exceedingly difficult to preserve a nice mean between that isolation

* "Contributions to the Literature of the Fine Arts."

which would render the subject disjointed, and that confusion which would inevitably arise from a huddling together of the various ingredients employed to tell the story. The difficulties thus glanced at lead to those ingenious devices by which an effect is conveyed to the mind by symbols rather than by realities, and which are known to artists by the name of conventionalities. "These," it is happily remarked by Sir C. Eastlake, "are supposed to be concealed in their results. Their ultimate resemblance to nature, and their successful effect in those circumstances, are the test of their propriety and necessity."

In relation to the subject of *alto-relievo*, the same distinguished writer remarks, that "a certain open display of the figure is generally adopted. The shadows, or rather the forms which project them, are so disposed as to present at the first glance an intelligible and easily recognised appearance; and the impossibility of changing the point of view, or of changing the light, limits the attitudes more than in a statue; and, as will also appear, more than in a basso-relievo; for in the latter, however distinct the outline in which the chief expression and meaning of the figures reside, the shadows within the extreme outlines are, in a great measure, suppressed. It is, in fact, by their being so suppressed, that the general forms become distinct. This is also the case when one form is relieved on another, for it will be found that the nearest object is then very much reduced and flattened." In *mezzo-relievo* greater liberty of action is permissible, since the attachment of the subject to the wall, at the line of its contour, ensures a clear projection of shadows, indicating the nature of the main outline, and less liable to confusion than those which may be cast by portions of figures, completely detached from the ground against which they are placed; while at the same time it is susceptible of surface-modelling as round as that which should be employed in alto-relievo.

To recur again to our great authority, we learn, in relation to *basso-relievo*, that, "as projection commands shade, so flatness commands light, and the flattest relief is hence fittest for an invariably dark situation. The flatness which ensures light would, however, be altogether indistinct and formless, unless the outlines were clear and conspicuous at the first glance. The contrivance by which this is effected, is by abruptly sinking the edges of the forms to the plane on which they are raised, instead of gradually rounding and losing them. The mass of the relieved figure being sometimes very little raised in its general surface, its outline would thus almost present a rectangular projection. In many instances the side of this projection is even less than rectangular. It is under-cut; like some mouldings in architecture, which require to be particularly distinct, and thus present a deeper line of shade. But if the figure can thus command distinctness of outline, notwithstanding the inconsiderable light it may receive, it is obvious that its lowness or flatness of relief will, in such a light, greatly aid its distinctness. Above all, this contrivance gives to a work thus shown in an obscure situation the effect of rotundity. Indeed it is a great mistake to suppose that the flat style of relief was intended to appear flat; and it is a great mistake to apply it in such situations as in the open air, where it must appear so, and be indistinct besides." It would be difficult to find more exquisite illustrations of basso-relievo than are presented by many of the coins and medals of Greece, as well as by the gems and engraved and embossed vessels of that country. Whilst in those works every internal marking is clearly indicated, the general effect is made to depend upon the perfect purity of the outline, and the graceful combination of the lines employed in its conventional arrangement. Consummate art is shown in so modifying the internal markings of the subject as to unite them in graceful curves or agreeable contrasts with the dominant lines furnished by the contours; just as, in surface decoration, it is necessary that every subdivision should either assimilate with, or emphaticise by contrast, the key pitched by the outline of the surface to be enriched.

The student of *bassissimo-relievo* will derive most valuable information as to the conventionalities appropriate to his style of execution from an examination of the exquisite hieroglyphics engraved in the earlier Egyptian tombs, in which the tenderest modelling of surface is made subordinate to a rigid severity of outline.

J.A. VINTER, DEL ET LITH.

M. DIGBY WYATT, DIREX.

THE HOURS LEADING FORTH THE HORSES OF THE SUN — A RELIEF BY JOHN GIBSON, R.A. OF ROME.

LONDON, PRINTED AND PUBLISHED JANY 1ST 1853, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXXXIV.

STANDARD LAMP,

BY WINFIELD OF BIRMINGHAM.

From our notice of Plate XLIII., our readers will have been enabled to appreciate the excellence of Mr. Winfield's productions, of which the object engraved is a highly-favourable specimen, as well as to comprehend the leading processes involved in the brass toy-trade of Birmingham. In connexion with Plate XCVIII., we adverted to the history and progress of the trade of that locality, and then expressed our intention to allude in some detail to the numerous and varied manufactures of the town. Our limits will, however, preclude us from entering upon this extensive field, except in the most general manner, referring such of our readers as desire much information in small compass to the excellent little guide to the Birmingham workshops, prepared by Mr. W. C. Aitken, on the occasion of the visit of her Majesty's Commissioners for the Great Exhibition to that town.

Our historical notices will have shown that smiths, cutlers, and nailers, were the earliest class of workmen employed in Birmingham; and that its extensive fancy and miscellaneous trade is of comparatively recent date. The manufacture of nails is still extensively carried on. Wrought-iron nails are made in the surrounding villages, by the hand of the workman, from quadrangular rods, and the trade affords a scanty maintenance to from 20,000 to 30,000 persons; whilst, since the year 1813, cut nails have been produced by steam-power in the town itself to an amazing extent. Messrs. Scholefield, in the year 1849, turned out no less than 40,000,000 in one week.

The manufacture of guns is, perhaps, amongst the most extensive carried on at Birmingham. Introduced, as we have before stated, in the reign of William III., it did not attain much importance till the beginning of the present century, when the great demand for fire-arms, arising from the war with France, gave an immense stimulus to the manufacture. In the year 1804, 5000 stand of arms were made monthly in the town; and in 1810, the number had increased to the extraordinary amount of 30,000 monthly; a rate of supply which continued till the Peace of Paris, justifying the common assertion, that they were produced at the rate of one in every minute. The proof-house for testing gun-barrels was established by Act of Parliament in 1813; and, by guaranteeing the excellence of the Birmingham goods, greatly promoted the manufacture. It may, however, be observed, that there is no such trade as a gun-maker, or, at all events, no gun-manufactory in the town; the articles having to travel from one factory to another, to the number of more than twelve, before their different parts are completed and put together.

The extensive trade in buckles being superseded by the fluctuations of fashion, its place was supplied by an increased manufacture of metal buttons; which, for many years, enjoyed much public favour. Mr. John Taylor, who died in 1775, introduced the gilt button-trade, and is said to have accumulated a fortune of 200,000*l*. So great was the variety of these articles, that in 1781 their value varied from threepence to 140 guineas per gross; and so great was the skill of the manufacturers, that, at a later period (in 1818), three pennyworth of gold was made to cover a gross of buttons. We may add, as an illustration of the beautiful machinery employed in the trade, that a single revolution of the machine for making button-shanks, cuts the suitable length from the wire, bends it into its proper curves, and gives to its extremities the flattening which

is necessary to fix the shank to the surface of the button. In 1834, one manufacturer had in his workshop 10,000 double sets of cut-steel dies for livery-buttons only; and in 1849, no less than 135 firms were engaged in the button-trade. Horn, shell, glass, pearl, paper, jet, coal, wood, cornelian, ivory, and other materials, are also employed in Birmingham in making fancy buttons.

Any notice of the productions of Birmingham would be imperfect without a reference to the great name of Boulton. He established, in 1764, at Soho, in the suburbs of the town, that great factory which is associated with the proudest recollections of every Englishman. Originally intended to supply Europe with "toys," the motive power employed at Soho was water; subsequently steam-power, on Savary's principle, was introduced; and in 1775 the genius of Watt, uniting with that of Boulton, rendered the establishment the grand focus of engineering skill and manufacturing ingenuity. So great were the results of Watt's extension of steam-power, that between 1780 and 1836, no fewer than 169 steam-engines were erected in different factories in the town. In 1839 Birmingham possessed a working power of 3436 horses,* equivalent to the labour of 55,000 men. Ten years later it was computed that this gigantic power had increased so much as to represent the labour of 100,000 men, requiring the supervision of about 7500 persons, men, women, and children.

Messrs. Boulton and Watt, at an early period, applied their energies to the stamping of medals, tokens, &c.; and, in fact, to all the operations of coinage. They were employed in this department by the State; and some of the copper coinage of the close of the last century, bearing the name of their far-famed establishment, is still in circulation. In their hands, as well as in those of Sir Edward Thomason, and his able successor, Mr. Collis, the medal business has been carried to very great perfection, both in the beauty of the dies and in the precision of striking. We have already (Plate CXXIX.) alluded to the adoption of the Sheffield plate-trade by these and other Birmingham manufacturers.

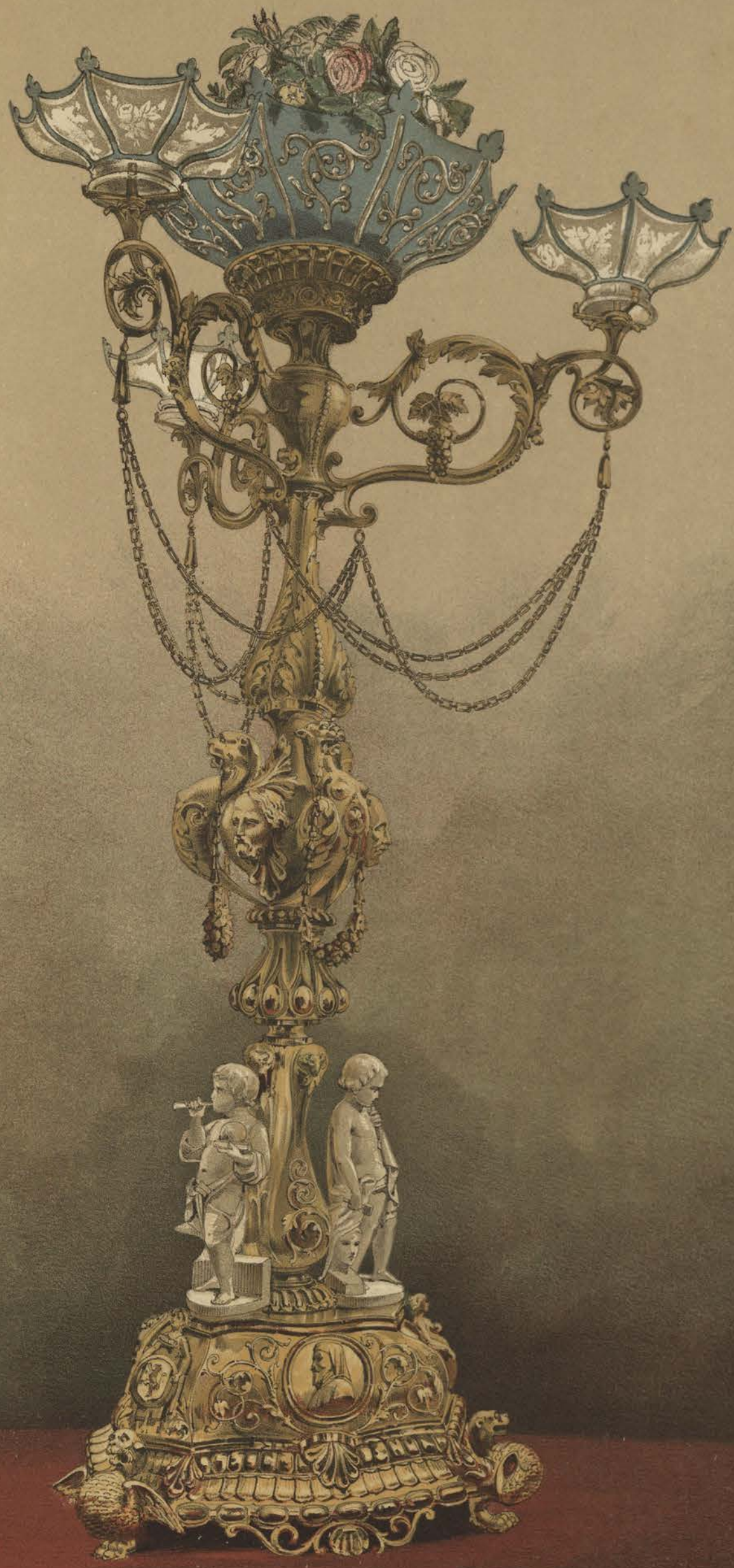
The brass toy-trade owes much to the genius, industry, and taste of the late Mr. Messenger, who was in the habit of employing the first artists in the kingdom as designers. Specimens modelled by Flaxman, Chantrey, and others of almost equal reputation, still decorate the pattern-room of his son and successor. The brass furniture of Mr. Winfield displayed in the Great Exhibition was valued at 3000*l.*, and a copious account and illustrations of it will be found in the "Official Descriptive and Illustrated Catalogue."

Though the pin-trade of Birmingham is confined to a few hands, those few manufacture upon a large scale. From the works of Mr. Phipson there frequently issue a million and a half of pins per day. The steel-pen trade is also very extensive. Mr. Gillott, the principal manufacturer, produced in 1843 no less than 105,125,493 of these useful articles. The subject of electrotyping, as practised by Messrs. Elkington and Co., will be found described in other pages of this work.

In some degree apart from metal-work, japanning occupies a large share of industry in Birmingham. The staple trade of old John Baskerville, the printer, was that of a japanner; which, indeed, he carried on from 1740 to 1770. His apprentice, Clay, first used papier-mâché boards, which he made himself by carefully glueing together a succession of sheets of unsized paper. He realised a large fortune by his labours; and it is satisfactory to know that his success has been since surpassed by Messrs. Jennens and Bettridge, and other manufacturers.

We might enlarge considerably upon many curiosities among the Birmingham productions; but we must conclude with simply noticing the often-quoted fact, that on one occasion an order was actually given for 500*l.* worth of dolls' eyes; whilst, as an illustration of the effect of labour in enhancing the value of the most trifling articles, we may mention watch-springs, which, as finished in Birmingham, acquire a value equal to 20,000 times that of the raw material.

* Of these 1770 horse-power were used in working metals; viz. 162 by iron-founders; 570 in rolling copper, brass, &c.; 150 in drawing wire; 201 in iron forges and wrought-iron nails; 74 in nail-cutting; 104 in screw-making; and 24 in drawing metal tubes.



J. CLAYTON. DEL.

M. DIGBY WYATT, DIREXT.

F. BEDFORD. LITH.

GAS CHANDELIER IN BRASS BY WINFIELD OF BIRMINGHAM.

LONDON. PRINTED AND PUBLISHED JANY 1ST 1853. BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXXXV.

SPECIMENS OF DECORATION OF METAL-WORK, SELECTED FROM INDIAN ARMS.

The immense number, variety, and singularity of the Indian arms and accoutrements exhibited in 1851, cannot be better described than in the words of the "Official Descriptive and Illustrated Catalogue:"—"In this collection we have a curious display of what would seem to be drawn from a museum storing the productions of various ages, but which are actually the arms in present use in different parts of India. Thus we have the bows and arrows as well of Assam as of north-west India, and shields from both localities as well as from Cutch: spears and battle-axes, two-handed swords, and daggers in every variety; chain as well as sheet armour, both for man and horse, with plumes for the helmet. Along with these we have the match-lock, flint-gun, and detonating lock,—the two latter imitated from European models; guns to be carried on camels, others to be mounted on hills; models of cannon and of mortars from Lahore,—all indicating the attention paid by the natives of India to arms. This is especially conspicuous in the care and taste with which many of them, as well as the accoutrements, are ornamented. Among the curiosities may be mentioned a shield, with four pistols concealed in its centre; complicated daggers, especially one which, in striking, separates into five blades; a sword which separates into two; and another with pearls let into the middle of its blade. All of these indicate the skill of the armourers, some of whom always form a part of the regular establishment of princes in the East; but the beautiful Damascus blades, the twisted barrels of the match-locks, and the skill with which the blade of one dagger is concealed within another, are to be admired as specimens of the workmanship of the natives of India as cutlers and gunsmiths, even in the midst of the works of industry of all nations."*

In our notice of Plate CXXIV. we described the admirable steel used by the Hindoos, and our engravings will sufficiently illustrate the refined taste with which the greatest magnificence of decoration is applied to these, as to all other objects of Indian origin. Almost every production of nature and art, except the human form, is represented, in the most exquisite conventionality, in the florid enrichments of these works. The religions of the Hindoos, the Persians, and the Mahommedans, expressly preclude the representation of human figures, and, consequently, foliage and inscriptions abound where there might otherwise have been such a kind of ornamentation; but some figures, probably representing the signs of the zodiac, or personages of the Hindoo mythology, are occasionally met with, as upon a sword-blade from Lahore. Goldsmiths' work, jewellery, embroidery, and enamelling of the most elaborate and costly description, are employed in the decoration of sheaths, hilts, and other accessories. In the latter art, the natives of all parts of India are peculiarly skilled.

A passage from a recently published volume entitled "Cutch, or Random Sketches of India," will further exemplify the variety and beauty of Oriental arms. "The armour of Cutch particularly deserves notice, as singularly beautiful in its design, manufacture, and ornament. Every military native possesses a sword, shield, and spear, which he is never seen without. The shield is made of transparent rhinoceros-hide, decorated with gilded wreaths of flowers, and strengthened with bosses of richly-worked gold. The spear-handles are made with several joints of fine steel, brass, and a sort of dead silver, which the workmen plate

* Such a collection of Indian arms as that presented in the Great Exhibition can scarcely be again witnessed; but some fine specimens preserved in the Tower of London possess an additional interest as trophies of British valour.

on iron with surprisingly good effect. In addition to these arms is the Cutch matlock, made of unusual length, its dark wood curiously inlaid with ivory and silver. The Cutchee warriors also use that ancient weapon the axe, the handle of which is beautifully plated with dead silver, inwrought with patterns of graceful foliage in fine gold. Poniards are numerous; some of them of a most exquisite device, the hilts bossed with gems, and the crimson-velvet sheaths worked with seed pearls, or a rich filagree pattern of gold or silver. They include also among their weapons the Arab double-edged sword, which has a slight, straight blade of highly-tempered and elastic steel, about six feet long. This tremendous weapon the natives grasp with both hands, and whirl about with the most accomplished ease. During the fast of Mohmrum, numbers of men, armed with these swords, and a sort of loaded mace, much resembling that used by the *secutores* of the gladiators, precede the ornamented bier of the grandsons of the Prophet; and when the procession halts they join in sham combats,—a practice which is with these men a sort of authorised profession. Although the concourse of spectators on such occasions is immense, and their confusion indescribable, no danger is incurred by the crowd who surround the combatants; their management of the formidable weapons they wield being so eminently skilful."

The beautiful Damascus blades, so common in India, are manufactured by a process which has never been satisfactorily described; but the admirable watered appearance on the surface of the steel, produced by black and white fibres or veins, in parallel, waving, or interlacing lines, has been successfully imitated by the scientific and manufacturing skill of French and English artists. M. Breant was the first to establish by analysis that, the Damascus blades are formed of a "cast-steel, more highly charged with carbon than that of Europe, and in which, by means of a cooling suitably conducted, a crystallisation takes place of two distinct combinations of carbon and iron."* Analogous to these are the twisted gun-barrels of the East, which have in like manner been extensively imitated. The process of manufacturing them from the rusty hoops of European casks, and similar materials is too complicated to be here described. A most interesting account of it as conducted at Kashmir will, however, be found in Moorcroft's "Travels in Hindostan," &c. vol. ii. pp. 195–213. Mr. Thornton, in his able "Gazetteer of India," observes, that "Kashmir has long been famous for gun and pistol barrels. The artisans employ extraordinary pains, care, and time in the process of fabricating them, and succeed in producing work of great beauty and excellence, and of various kinds,—plain, twisted, and damasked. The iron employed is that brought from Bajour, in the Eusufzai country, and, though loaded with impurities, in consequence of the rough mode of smelting practised in the first instance, it is sold in Kashmir for three times the price of that raised in the valley or the neighbouring mountains; and, by suitable processes, is rendered a material of great purity, tenacity, and strength. This manufacture, like all others, has much decayed under the domination of the Sikhs, who are furnished with arms from Lahore.

Lahore, as we have before stated, is indeed the principal depôt for the manufacture of arms of every description, but it is carried on in a greater or less degree in most of the large towns of the continent; and whilst the art of enamelling is also generally diffused, its choicest specimens are derived from Cutch, Scinde, and North-western India.

* Ure's "Dictionary of Arts, Manufactures," &c. (8vo. 1843); in which work this subject is more fully discussed.

J. SLEIGH. DEL.

M. DIGBY WYATT. DIRXT.

F. CHERVAL. LITH.

SPECIMENS OF INDIAN ENAMELLING SELECTED FROM THE ARMS DISPLAYED IN THE GREAT EXHIBITION.

LONDON. PRINTED AND PUBLISHED JAN 1ST 1853 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXXXVI.

DECORATION,

DERIVED FROM THE ALHAMBRA; BEING A PORTION OF THE CABINET OF THE QUEEN OF SPAIN, AT ARANJUEZ; BY RAFAEL COUTRERAS.

THE beauty and richness of the specimen of decoration engraved in the present Plate will serve to convey to the reader some idea of the adornment of the sumptuous apartment in which it is introduced; and those who remember the skill displayed by its exhibitor in the production of some beautiful models, on a small scale, of portions of the Alhambra, will readily give Senhor Coutreras credit for the ability which he is said to have evinced in fitting up the royal apartment at Aranjuez.

It is but comparatively in recent years that the attention of the English public has been directed to that beautiful style of decoration of which the object engraved presents an admirable and pleasing specimen. The Travels of Swinburne, in the years 1775–6, appear to contain the earliest notices in this language of the importance of the Moorish style of architecture; a subject to which the great Spanish work on the "Antiquidades Arabes de Espana" (published in 1804), gave a recognised literary value. The engravings executed by Mr. Murphy,* although sadly incorrect, served to direct public attention to the subject of Spanish architecture, and no doubt stimulated the publication, between the years 1806 and 1812, of the great work of the Comte Alexandre de la Borde, "Voyage Historique et Pittoresque de l'Espagne." It was reserved, however, for Mr. Owen Jones to furnish us with really trustworthy materials for appreciating the refinements of the palmy days of Moorish art in Spain.

In the summer of 1834 that gentleman, in connexion with his friend, M. Jules Goury, visited Granada, for the purpose of presenting to the world a more perfect representation of the palace of the Alhambra than had before been obtained. In the preface to his great work, Mr. Jones observes that "he believes they derived peculiar advantages for the fulfilment of this design, from having previously passed a considerable time in Egypt in the study of the valuable remains of Arabian architecture which that country possesses. After a residence of six months in the Alhambra, M. Goury fell a victim to the cholera, which at that time infested the whole of Europe. Overwhelmed by the loss of an attached friend and valued coadjutor, Mr. Owen Jones at once returned to England, and, in the following year, commenced the publication of the original drawings. In the spring of 1837 he revisited the Alhambra, and completed the collection." Every measure was adopted to ensure perfect accuracy; and the publication (unaided by assistance of any kind from the Government) of a work so complete and beautiful as the "Plans, Elevations, Sections, and Details of the Alhambra, by Owen Jones, Architect" (folio, 1842), was a circumstance tending in a high degree to vindicate the character of England from that charge of apathy to the beauties of art which has been so frequently brought against it in foreign countries.

It would be impossible, within the limits of a notice such as the present, to follow Senhor Pasqual de Gayangos through the interesting historical notice of the developement of art amongst the Moors, which he

* In his "Arabian Antiquities."

has prefixed to Mr. Owen Jones's work. We shall, therefore, prefer to glean from the writings of the last-named gentleman some particulars concerning that style of which he may be regarded as pre-eminently the illustrator in this country. In respect to its general features, he tells us that "the architecture of the Arabs was essentially religious; the offspring of the Koran, as Gothic architecture was of the Bible. The prohibition to represent animal life caused the Moors to seek for other means of decoration,—such as inscriptions from the Koran, interwoven with geometrical ornaments and flowers, not drawn decidedly from nature, but translated through the loom; for it would seem that the Arabs, in changing their wandering for a settled life —in striking the tent to plant it in a form more solid—had transferred the luxurious shawls and hangings of Cashmere which had adorned their former dwellings to their newer and more permanent abodes, changing the tent-pole for the marble column, and the silken tissue for the gilded pilaster."

Thus it was that the Moors obtained originality of style, and escaped from those trammels of imitation to which they had been subjected in the earlier works which they executed after the model of those of Byzantium. Those very elements which would at first sight have appeared likely to cripple the resources of the Moorish architects, ultimately tended to their emancipation. That prohibition to represent animal nature, even in mere colour, which, as Mr. Hope observes,* condemned their architects "to an almost incorrigible nudity," probably led to those singular combinations of facets and angles which ultimately received, "in the warmer soil of Islamism, so ample a cultivation as by degrees to cover the capitals, the cornices, the brackets, the groins, the spandrels, the ceilings, and the cupolas, with all the congelations and stalactites of the richest grotto."

The students of the history of art will doubtless find delight in tracing, through the writings of M. Girault de Prangey, the gradual divergence of the Moorish architects from their Byzantine models, as they advanced from the monuments of Cairo and Cordova to those of Seville, and ultimately of Granada. One by one, the features common to Greek art became merged in those peculiarities which at length, by their geometrical intricacy, appeared to afford no clue to an analysis of the secret of their combination. Mr. Owen Jones has, however, succeeded in unravelling these mysteries, and in the text of his great work may be found a few simple rules in subordination to which not only those elaborate stalactite formations to which Mr. Hope alludes are shown to have been constructed from a few simple elements, but a key is given upon which their most complicated interlacing patterns are shown to be dependent for their interminable variety and yet agreeable order.

In relation to the later, and even actual architecture of the Mahommedans, Mr. Jones, in a highly interesting paper on the Great Exhibition, in the "Journal of Design,"† has remarked that anomalies, corresponding with those which may be observed in the history of Christian art, may readily be traced. "Whenever the Mahommedan invaded the conquered Christian nations, drove them from the soil, occupied their temples, and devoted them to the worship of their own God, we find that all future buildings erected in the same climes have felt the influence of those already adapted to the new worship: but as the religion spread far and wide to new countries beyond this influence, the Mahommedans, left to the full play of their lively and fruitful imaginations, produced and perfected the most refined and elegant style of architecture that has ever yet appeared. Shorn as they are of their power to produce great works, they are still faithful to the art, as to the religion of their ancestors, and the many wonderful specimens of their industrial works in the Great Exhibition show them to be still as equal in the power of producing refined works of art as they were in any period of their history."

* "Historical Essay on Architecture," page 154.

† Vol. v. p. 91.

E. POZZI DEL. M. DIGBY WYATT DIREXT. J. STIEGH LITH.

DECORATION DERIVED FROM THE ALHAMBRA,

BEING A PORTION OF THE CABINET OF THE QUEEN OF SPAIN AT ARANJUEZ BY RAFAEL CONTRERAS.

LONDON PRINTED AND PUBLISHED JANY 1ST 1853 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXXXVII.

GOLD AND SILVERSMITHS' WORK,

EXHIBITED BY FROMENT-MEURICE OF PARIS.

In the remarks accompanying Plate XCIII. we traced the artistic and industrial developement of the establishment of M. Froment-Meurice, and in the present article we shall confine our attention to some of those technical processes, by means of which the most beautiful objects executed for him have been elaborated.

We cannot but recognise especially the great ability with which he has revived the art of jewellers' enamel, after the manner of Cellini, or, yet more, after that of the celebrated Florentine, Amerigo Amerighi. In the beautiful chalice which forms the centre of our present group, six paintings in enamel are introduced: representing the sacrifice of Abraham, the sacrifice of the Paschal Lamb, the Israelites gathering manna in the desert, the birth of Our Saviour, the Presentation in the Temple, and the Virgin Mary at the foot of the cross. This exquisite work of art, the design for which was given by the Abbé Conballot, has been executed for the Pope; and the details of its workmanship evince the most refined manipulation. A shield in silver and iron, partly worked in repoussé and partly cast, afforded proof of the admirable skill in chasing attained by M. Froment-Meurice.

It is, however, in the art of beating up silver that the productions of M. Froment-Meurice display the highest degree of excellence. Under the hands of his workmen that metal has been moulded as readily as wax or clay. In the ordinary practice of the art, and where the amount of relief desired is but slight, the process is comparatively simple; consisting of an alternation of pressing out from the back, and of beating in from the face; the tools employed being the hammer, the snarling-iron, the chisel, and the graver. The production, for example, of a moderate bas-relief is, in its technical details, sufficiently simple. A plate of silver, of about the thickness of a shilling, is fixed on an elastic cement. The outline of the design being traced with a punch, the forms are beaten into relief with a hammer, whilst the cement beneath prevents the rending of the metal under the blows. When the necessary relief is obtained the plate is turned over on the same cement, and the forms are then corrected by being beaten back, and perfected by means of chasing. When, on the contrary, the work involves a great projection, or is one in which certain parts should be detached from the background and exhibited in the round, the difficulty is very greatly increased. By this latter process all the most celebrated pieces of plate of the Renaissance period were executed, and it is only by returning to this practice that the sculptor in metal can hope to attain the perfection of his art.

Never since the days of Cellini has greater excellence been attained in this, the highest department of metal-work, than in the group to which we will now proceed to call attention. This most beautiful object was wrought for the Duc de Luynes, whose taste is no less great than his fortune, and whose liberality is, perhaps, greater than either. It constitutes a group of eleven figures, illustrating the union of Ceres, Bacchus, and Venus.

The whole was modelled by M. Jean Feuchères, and entirely executed by a process of repoussé, to the complete exclusion of casting and the other ordinary modes of fabrication. The mechanical difficulty of this process may be imagined, when we state that several of the figures in the group have each required no less than forty small sheets of metal; which it has been necessary to beat into form, to fit, to join together, and to solder up; and that without presenting the appearance of a join, or the slightest distortion of any kind. Even the fingers are, without exception, hollow; and every hand consists, therefore, of from ten to twelve separate pieces.

Undoubtedly the greatest master that ever lived of the peculiar processes involved in the production of this great work of M. Froment-Meurice was Foppa of Milan, better known as Caradosso. Fortunately, Benvenuto Cellini, in his *Tratatto dell' Oreficeria,** has preserved a full and interesting account of the mode of practice adopted by this artist; and we believe we cannot better close the present article than with the following translation of it:—

"In the goldsmiths' art I know none who surpassed Caradosso da Milano, a goldsmith of the time of the Popes Leo, Adrian, and Clement. This artificer was in the habit of making a most careful model in wax of his subject, and then, filling up the under-cuttings with clay, he cast it in bronze. He then took a plate of gold, of an increased thickness in the centre (though not so much so that he could not easily bend it), and rather wider than his model; having heated and worked it to a convex form he placed it on his bronze model, and hammered it with tools made of birch or wild cherry, gradually causing it to take the forms of the figures on the model; taking care that the gold should not break; using his tools, whether of wood or iron, with great dexterity on either side of the plate, and always striving to render the gold of an equal thickness throughout. The carefulness of Caradosso in this particular was unsurpassed.

"When he had brought his plate to the height of relief he desired, he began forcing the metal with much care between the legs and arms, and behind the heads of the figures, and having brought the parts so well together that the edges joined, he cut away the portions of the plate which remained under the legs, arms, and other parts, and so he did to all the other parts which were detached from the field.

"The work being brought to this point, and being made of the best gold of at least 22 carats (that of 23 being too soft for working, and that of $21\frac{1}{2}$ being too hard and dangerous in uniting), he commenced joining it by the method called hot-soldering, which is done thus:—

"Take a little verdigris in a pure state (not having been previously used for any purpose) of the size of a walnut; add to it a sixth part of sal-ammoniac and as much borax, and having ground them well together, liquefy them in a glazed pipkin with a little very clean water.

"When this composition had become of the consistence of a painting colour, he laid a slight thickness of it upon the before-mentioned junctions, between the arms, &c., of the figures, and upon this verdigris, with his borax-box, he put a little well-ground borax; he then made a fire of fresh charcoal (not previously used) and placed his work in it, arranging the ends of the charcoal so that they should turn towards the parts he wished to join, because the ends breathe or puff out a little: this done, he adjusted some pieces of charcoal over his work in the manner of a grating, taking care, however, that they should not touch it. When the work became the same colour as the fire, he began blowing it skilfully with small bellows, in such a manner that the flames played all around it: should the wind, however, be too strong the flames would open, causing the danger of the melting and spoiling of the work; for this reason he observed the greatest care and watched for the glittering and moving of the first skin or coat of the gold; as soon as it took place he quickly sprinkled it with a brush dipped in water; thus it became joined most excellently without soldering. (This method is not soldering, but is bringing the work into one piece; for such is the virtue of the verdigris accompanied with sal-ammoniac and borax, that it can move merely the outside or first skin of the gold, with which skin the gold is joined in such a manner that the work becomes one entire piece.) He then placed it in strong white vinegar, adding a little salt, and so left it a whole night; the effect of which was, that in the morning he found it whitened and cleaned from the borax: he then filled the whole work with stucco, for the purpose of working it with chisels, which gradually diminished from a large to a small size, and were without a cutting edge, being used for bruising or denting, not for cutting away. The stucco is made of Greek pitch, with a little yellow wax and some well-pounded brick.

"In working the plate, some small holes or cracks will unavoidably occur; in such cases the method of joining above described with verdigris must not be adopted, but a solder must be used, made as follows:—Of fine gold take 6 carats, and of fine silver and copper together $1\frac{1}{2}$ carat: when the gold melts, add the silver and copper. With this solder the holes or cracks must be filled up, and every time a soldering takes place some of this composition should be placed over the holes so closed, so that the subsequent soldering may not cause the previous one to run; all parts of the work being soldered, it should be again placed on the stucco and reworked with care and patience till it be perfected. This is the whole of the method followed by Caradosso."

* Cap. v. p. 56.

P H DELAMOTTE, DEL.

M DIGBY WYATT, DIREXT

F. BEDFORD, LITH.

OBJECTS IN SILVER BY FROMONT MEURICE OF PARIS.

LONDON PRINTED AND PUBLISHED JANY 15TH 1853 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXXXVIII.

A SHIELD IN SILVER, COPIED BY THE ELECTROTYPE PROCESS,

BY ELKINGTON AND MASON, FROM THE ORIGINAL BY VECHTE.

THE shield, which forms the subject of the present Plate, has been produced by the beautiful and perfect process of electro-galvanism, which is becoming so valuable a handmaid both to the artist and the manufacturer. The original was one of the early works of the now celebrated French artist, M. Vechte, and we are informed that it was sold by his employers to the King of Prussia as a genuine piece of cinque-cento work. The subject of the basreliefs is a battle of the Amazons, in treating which the artist has availed himself of many of those beautiful compositions which have been handed down to us in the marbles, bronzes, and gems of antiquity. In our notice of Plate LXXIX., we gave some account of the invention and introduction of the electrotype process; and we propose in the present article to give a short detail of its nature, as employed by the principal manufacturers of electro-plated articles; or, as in the present instance, in forming an article altogether by electro-deposit. For the latter purpose, a careful mould is taken of the original object in fine clay, plaster, wax, or gelatine; and the interior face of this is rendered conducting, or, in other words, susceptible of a tenacious metallic deposit, by being brushed over with fine plumbago, or bronze-powder. The mould is then placed in a trough connected with a galvanic battery, and containing a solution of the metal required, which is gradually deposited on the inside, and becomes in its turn an exact copy of the original.*

The arrangements for electro-silvering, or gilding, in some of the large plating manufactories, may be thus briefly described:—The *vat*, or vessel in which the objects to be plated are immersed, is about six feet long, three feet wide, and the same depth; this generally contains from 200 to 250 gallons of the solution; and the silver plates, by means of which the strength of the solution is maintained, are fixed upon light iron frames. At one end of the vat the battery-troughs are placed, generally containing six batteries. Mr. Prime and Messrs. Elkington and Co. have, however, replaced those batteries by powerful magnets, used upon the principle that when the armature of a magnet is set in rapid motion in front of the poles, an electric current is generated. For this purpose steam-power is used, and the electricity evolved is accumulated in large coils of copper wire, which are connected with the plating-trough. Articles to be plated are prepared by being boiled in an alkaline ley, in order to free them from grease. They are then washed and dipped into nitric acid, diluted so that it will only just act upon the metal, in order to remove any oxide from the surface; for this purpose also they should be cleaned with a hard brush and fine sand, and when dried are ready to be plated; a copper wire, by which it is to be suspended in the solution, is attached to each article.

For plating, the article is rapidly immersed in nitric acid, washed through clean water, and immediately immersed in the silver solution, suspended from a wire connected with the source of electricity. It is instantaneously coated with a thin film of silver, and should be taken out after a few seconds and well brushed, in case any particle of foreign matter should still adhere to the surface. After a few hours' immersion, a coating of silver will have been deposited about the thickness of tissue-paper. The cost of depositing silver in this manner is about twopence per ounce. If the battery used be weak, the silver deposited will be soft; but if

* It would be beyond the limits and intentions of these articles to enter into all the details of the electrotyping process, for which we must refer our readers to the numerous popular treatises on the subject by Messrs. Napier, Shaw, Smee, and others.

the battery be as strong as the solution will allow, the deposit will be equal in hardness to rolled or hammered silver; generally speaking, a deposit, which has been effected rapidly, is the most perfect.

In order to secure a perfect adhesion of the deposit in plating large articles, a small portion of quicksilver is dissolved in nitric acid, and a sufficient quantity of this solution is added to water to enable it to give a white silvery tint to a piece of copper when dipped into it; the article is then plunged into this liquid until the surface is white, and then, after being well washed in clean water, it is placed in the plating solution.

The solution of silver commonly used in the process just described consists of cyanide of silver dissolved in cyanide of potassium, and is thus prepared:—A mixture of four parts of nitric acid and one of water is heated in a vessel, and as much metallic silver is gradually added as the fluid will dissolve. When the silver is quite dissolved, the mixture is further diluted with water, and cyanide of potassium is added so long as a white precipitate is formed. This precipitate is the cyanide of silver; and when it has quite settled, the clear liquid is drawn off. The vessel is then again filled with water, which, in its turn, is drawn off as soon as the precipitate has settled. By a repetition of this process the soluble salts are effectually removed, and the precipitate is dissolved in cyanide of potassium and is ready for use.*

For electro-gilding the solution is prepared by dissolving metallic gold in three parts of muriatic acid and one of nitric acid, the resultant of which is chloride of gold. This is digested with calcined magnesia, and the gold is precipitated as an oxide; the oxide is then boiled in strong nitric acid to dissolve any magnesia in union with it; and the oxide being well washed, is dissolved in cyanide of potassium. This method gives a proportion of potash in the solution as an impurity; it is not, however, detrimental to the process. Napier prefers the battery process, which is similar to that described for silver (see Note); having a solution of cyanide of potassium, with a gold positive electrode, and the negative electrode, which may be iron or copper, in a porous vessel, also charged with cyanide of potassium.

For all operations of gilding by the cyanide solution, it must be heated to at least 130° Fahrenheit. The articles to be gilt are cleaned in the way already described for silvering; but are not dipped into nitric acid previously to being put into the gold solution, as the gilding is generally performed upon silver articles. The actual process of gilding is much the same as that of the silvering, and an immersion of three or four minutes is generally sufficient if the solution and battery are in good condition; the former generally contains from one half to an ounce of gold in the gallon; but for small articles a weaker solution will suffice. On removing a gilt article from the solution, it should be of a dark yellow colour, which, when scratched, will yield a rich deep gold. When the battery is too strong and gas is given off from the article, the colour will be black; if the solution is too cold, or the battery weak, the gold will be light-coloured, so that every variety of shade can be obtained.

We cannot conclude our present notice without alluding to the eminent services which the late Mr. Henry Elkington rendered to this already important branch of manufacture. At a time when, in point of art, the manufactures of Birmingham certainly did not deserve great credit, that gentleman commenced his active career, and by his zeal and enterprise greatly tended to raise the standard, not only of the manufacture in which he was specially engaged, but by his example also that of others more or less connected with the arts. Although not himself a practising artist, his correct taste enabled him to direct the artistic talent which he engaged to the production of objects of the highest class of art-manufacture. His loss will, we fear, be seriously felt in the town of which he was so active a citizen.

* Napier, in his "Manual of Electro-Metallurgy," recommends, as the best and least expensive means of obtaining the silver solution, the employment of the battery. "This is effected," he says, "by taking advantage of the principle of the non-transfer of metal in electrolytes. To prepare a silver solution, which is intended to have an ounce of silver to the gallon dissolved in 123 ounces of cyanide of potassium in 100 gallons of water, get one or two flat porous vessels, and place them in this solution to within half an inch of the mouth, and fill them to the same height with the solution; in these porous vessels place small plates of iron or copper, and connect them with the zinc terminal of a battery; in the large solution place a sheet or sheets of silver connected with the copper terminal of the battery. This arrangement being made at night, and the power employed being two of Wollaston's batteries, of five pairs of plates, the zincs seven inches square, it will be found in the morning that there will be dissolved from sixty to eighty ounces of silver from the sheets. The solution is now ready for use; and by observing that the articles to be plated have less surface than the silver plates forming the positive electrode, for the first two days the solution will then have the proper quantity of silver in it.

F. H. DELAMOTTE, DEL.

M. DIGBY WYATT, DIREXT.

J. MAHONEY, LITH.

SHIELD PRODUCED IN ELECTROTYPE, BY ELKINGTON & MASON OF BIRMINGHAM.

LONDON PRINTED AND PUBLISHED JANY 15TH 1853, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXXXIX.

PENDANT LAMP,

BY MATIFAT OF PARIS.

In Plate XXI. we engraved a beautiful specimen of the manufacturing capability of M. Matifat, and in the remarks accompanying that plate we took occasion to trace the nature of his connexion with Parisian industry. The present subject affords a specimen of the versatility of his talent; and the elegance of its form (for which we understand he was indebted to M. Dieterle) shows how gracefully, under the management of a skilful designer, objects which minister to our ordinary wants may at the same time be made to gratify the requirements of art.

The manufacture of lamps is a very important branch of Parisian industry, the fabrication of the various parts (each of which has its separate workshop) giving employment to a number of hands amounting to upwards of six thousand. We learn from the "Dictionnaire de Commerce," that the number of lamps yearly manufactured in this capital amounts to 350,000 of all kinds, and generally of a low price; a considerable part of the above number being for exportation. Various are the systems into which these are divided. Of that by which the oil is constantly kept at the level of the burner, 200,000 are constructed. Amongst them are the lamps called "*à applique*" and "*à suspension,*" and the portable ones called "*économiques*" and "*à tringles.*" Another system is that called "*à niveau defaillant,*" used for the astral lamps. The plan invented by the late M. Carcel is, however, the best, without contradiction, amongst the portable lamps. From its high price, however, the consumption is necessarily confined to the richer and less numerous portion of the community. Many manufacturers have tried to render this lamp more perfect, with varying success; and amongst them MM. Gagneau, Gotten, Jeubert, Galibert, Decan, and Grivard'hey, have been honourably mentioned in the various reports of the French Juries.

Before proceeding to notice the successive improvements which have been made in the manufacture of lamps in France, it may be desirable to convey to our readers some idea of the principal defects which required to be remedied; and we can hardly do so in clearer language than that which has been employed by the Baron Dupin.* That distinguished writer observes, that "oil is a material in the composition of which hydrogen and carbon are the principal component parts. When burning, the flame is produced by the hydrogen gas absorbing atmospheric oxygen, to the amount of thirteen eighty-fifths of its own weight; the carbon, however, being less combustible than the oxygen (when the heat is not very intense), is only partially consumed, and flying off with the heated air, quickly falls again, depositing itself on whatever it touches in the form of soot. This was an inconvenience to which all the old lamps were subject, independently of the offensive odour arising from the imperfect combustion of the impure oil with which they were fed." The same author informs us, that "previous to the year 1789 Argand hit upon the happy idea of using circular wicks, to the top of which the oil was raised, either by means of a syphon, or simply by the capillary action of the cotton. The air also was able to rise without interruption up this wick in two currents, one external and the other internal. These two currents were rendered much more rapid by surrounding the wick with a glass chimney. This discovery of Argand's was stolen from him by one of his workmen, named Quinquet, and for a long period

* "Introduction to the Jury Reports on the French Exposition of 1834."

the public honoured with the name of Quinquet, as applied to a lamp, this scandalous theft of Argand's discovery.

"Another improvement remained to be made, viz. that of saving the trouble of continually keeping the oil at the level of the burner. Carcel succeeded in effecting this by pumping the oil up by means of watch-work, hidden within the interior of the lamp. In 1803 and 1806 Carcel received the bronze medal for his valuable invention. The brothers Girard, by an ingenious application of the hydrostatic fountain, arrived at the same result; using a column of oil, or some more or less dense fluid, applied underneath the column engaged in supplying the wick, and acting as an equilibrium to it. A considerable number of lamps on this construction were made and sold at the time of the invention; and were, besides, remarkable for the elegance of their forms.

Since 1806 a great number of improvements have been made, all aiming at the simplification of the mechanism and the improvement of the uninterrupted light, as well as the lowering of the price of lamps, without at the same time diminishing in any degree their elegance. The light of a Carcel or a Girard lamp is so brilliant that the eye cannot bear the glare. For the purpose of obviating this inconvenience, a cylinder of gauze, distended by internal wires, was adopted; but this has, however, long since given place to the globe of ground glass."

Of late years various modifications have been made in the construction of lamps; some of them directed to the principle of using the heat of the flame to warm the oil previous to its arriving at the wick, thereby enabling a less pure, and consequently a less costly, oil to be used. Others have been adapted to sustain combustion by the employment of naphtha and other spirits. Of all the numerous lamps recently invented, none, however, appear to give more general satisfaction than that commonly known as the *modérateur*, the simplicity of the mechanism of which is such as to obviate the only drawback in the use of the Carcel lamp; namely, the difficulty of its management, and repair in case of accident. The modérateur lamp consists of a cylinder containing oil, and a plunger, by the descent of which in the cylinder the oil is forced upwards to the level of the top of the wick. The plunger is forced downwards by a powerful spring, and, on completing its descent, is raised again to its former position by means of a rack and pinion. On its being thus raised a vacuum is formed in the cylinder, and the superfluous oil, which has dripped away from the wick, is readmitted, and again, by the descent of the plunger, driven upwards to maintain combustion. Among the great advantages offered by this lamp is not only economy, but the complete and regular combustion of the oil employed to feed it.

It is much to be regretted that a high style of art has not been generally applied to the manufacture of table-lamps. In the old Exhibitions at the Society of Arts, the ugliness of the pillar-lamps was most remarkable. Doric columns with caps and bases were among the most ornamental forms; and occasionally Gothic crosses—complete in everything except the cross—were made to do duty in the same manner. In France, some of the beautiful reductions from the antique, by M. Collas, have been so arranged as to enclose the works of both Carcel and modérateur lamps, and the graceful forms of Pompeii and Herculaneum have been successfully adapted to the same purpose. The pendant lamps of the middle ages were often exceedingly beautiful. The "*coronæ lucis*," existing, as described by Ciampini, from the age of Constantine, in the old basilicas of Italy, must have been very graceful; and the curious specimen which still hangs in the cathedral at Aix-la-Chapelle affords a corroboration of the justice of his praise.

M. DIGBY WYATT, DIREXT.

F. BEDFORD, LITH

PENDANT LAMP BY MATIFAT OF PARIS.

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PLATE CXL.

INDIAN BULLION EMBROIDERY.

In presenting to our readers another exquisite specimen of the arts of modern India, we propose to commence a brief sketch of the history of the commerce of that country with the western nations of the world, from the earliest periods; continuing the subject to the present time, in connexion with our illustrations of other Indian productions.

As early as the days of the prophet Moses (1571 to 1451 B.C.) the productions of India were probably known beyond the limits of that country; for it is believed that the spices borne by the Ishmaelites, mentioned in Genesis (ch. xxxvii.) must have been derived from that source: and in the Book of Exodus we find that "onycha, cassia, and cinnamon," were used in the services of the sanctuary. The Hymns of the Vedas were composed at least 1200 or 1300 years B.C., and they disclose a state of civilisation which proves that the Hindoos were then distinguished as a manufacturing, a maritime, and a mercantile people. About 1000 years B.C. Solomon not only traded with Tyre and Sidon, but, in conjunction with the Phœnicians, sent fleets to Ophir and Tharshish, which brought back "ivory, apes, peacocks, cinnamon, cassia, nard, and calamus:" most of which are peculiarly Indian products: and in his days the fragrant aloe-wood, which is only found in trans-Gangetic India and Cochin China, was employed by the Jews to perfume their garments and apartments. The Ramayana, and other Hindoo epics, written long anterior to the Christian era, contain references to gold and precious stones, bracelets, and necklaces, and costly garments; as well as to the use of silk and woollen stuffs, of such exceeding value that Heeren supposes the latter to have been the shawls of Cashmere.

The southern portion of Arabia possessed, from the earliest periods, a monopoly of the external trade of India. Ophir was probably on the shores of that country, constituting an emporium of the joint African and Indian trade; it was, doubtless, through the Arabs that the ancient Egyptians procured the Indian spices with which, as Diodorus relates, they embalmed their dead. The communication from India to Babylon, in the time of the Assyrian empire, was probably direct through Persia; and the discoveries of Layard afford abundant evidence of the knowledge of Indian animals, &c., possessed by the people of Nineveh. The apes represented on the Nimroud sculptures, and more especially the elephant upon the obelisk from that city, are now familiar proofs of this fact.

The Phœnicians, like the Egyptians, derived the products of India from the Arabs, by whom they were conveyed to Petra, and there purchased by the Phœnician merchants. The prophet Ezekiel, whose writings date from the year 598 B.C., has frequent allusions to the trade of this nation in foreign objects; and the inference is obvious, not only that many of these were of Indian origin, but that they were supplied by way of Arabia. He especially alludes to "coloured cloths and rich apparel," and it may be reasonably supposed that the fine cotton goods of India were even then an article of commerce.

Heeren adduces many learned arguments to prove, that as early as the time of the Persian empire the produce of Ceylon found its way to the markets of Arabia, Babylonia, and Persia, and that the same island continued for upwards of two thousand years to be the common emporium of all southern commerce—from the eastern shores of Africa to China. About the year 521 B.C., Darius Hystaspes is said to have subdued the natives of a portion of India, and to have formed it into a satrapy of his kingdom. The tribute exacted from the conquered people amounted to three hundred and sixty talents, and it is especially recorded to have been paid in gold. The Persian dominions in India were probably, however, limited to the western side of the Indus.

In the earliest history of Greece we meet with evidences that the productions of India were known in that country. Hercules and Bacchus are both Hindoo deities; and many of the Greek names for Indian articles are derived from the Sanscrit. Among these may be mentioned tin,—a metal which the Greeks may be supposed to have obtained from India, through the agency of the Phœnicians, with at least as much probability as from Britain. Herodotus (484–408 B.C.) had heard of the bamboo and the cotton plant; and Ctesias, a Greek physician, who resided at the court of Artaxerxes (401 B.C.), mentions the customs and productions of India, especially alluding to a traffic in female slaves for the harem. The Greeks, however, first obtained a correct idea of the western parts of India, with some knowledge of the country beyond the Indus, from the expedition of Alexander the Great, who subdued Porus about the year 326 B.C. The reports of his admiral, Nearchus, whom he first despatched to explore the coast of the Indian Ocean as far as the Persian Gulf, led to this important enterprise; and in the writings of Megasthenes and Daimacus, the companions of Alexander, we possess some interesting references to the produce of India,—including, besides gold, jewels, and rich garments, allusions to the use of ivory ornaments, and to the pearl fisheries of the East. Among the gifts of Porus to the Conqueror were thirty pounds of steel; and it has been well observed, that the facility with which Alexander's army proceeded through the country, together with the early and frequent use of chariots, proves the existence of good and level roads.

After the death of Alexander, the kingdom of the Prasii, on the banks of the Ganges, became known to his successors by a military campaign; and a considerable part of Northern India appears to have been included in the Greek kingdom of Bactria, which existed from the year 255 to 134 B.C.

From the foundation of Alexandria the western trade of India was almost exclusively carried on through the merchants of that city, who obtained their goods from the Arabs. Thus all the treasures of the East became familiar to the Romans. Juvenal, Petronius, and many other classic authors, have frequent references to the productions of India (and, indeed, the term "Indica" was employed to express all that was most elaborate and rich in costume). Pliny informs us that Rome was drained annually of at least fifty millions of sesterces (upwards of 400,000*l.*) for the purchase of Indian commodities; and, probably with some degree of exaggeration, he adds, that their cost was increased a hundredfold by the expense of transit. He especially alludes to woven fabrics of silk, of cotton, and of both materials combined;* to iron, skins, sugar, indigo, lac, lign aloes, musk, spices, perfumes, and precious stones. The transparent garments often mentioned by Roman authors were, probably, the fine muslins of India.

In the second century we meet with a far more minute and accurate account of Indian commerce than at any earlier period, in the "Periplus of the Erythrian Sea," by Arrian, a merchant and mariner of Alexandria. It is, indeed, impossible to overrate the value and importance of this interesting nautical journal, describing as it does, from actual observation, the coast from the Red Sea to the western parts of India, and furnishing from authentic information accounts of the province of Bengal, and many of the central and southern parts of Hindostan. Arrian distinctly mentions "the Gangetic muslins, which are the finest manufactures of the sort," and which were obtained from a certain mart on the banks of the Ganges.† He further describes as articles of trade, coarse, middle, and fine cloths, both plain and striped; coloured shawls and sashes; coarse and fine purple goods; pieces of gold embroidery; spun silk and furs from Serica; pearls, diamonds, rubies, onyx, perfumes, and spices; lac, indigo, sugar, steel, &c.; and it is reasonably inferred by Heeren that all these objects, though not before minutely described, had long been exported by the Hindoos. It appears from the statements of Arrian, that the merchandise of Bengal was conveyed in native vessels to different places on the eastern side of the Indian peninsula, and to Ceylon, as well as to the ports on the western coast. From the latter, in the time of the Ptolemies, and during the Roman government of Egypt, it was transported direct to Berenice, or to Myos Hormos (near the modern Cosseir), on the Red Sea. From these places caravans proceeded to Coptos (now Kenné), on the Nile, down which river it was conveyed to Alexandria, and thence distributed over Europe.

* Silk (or "Sericum," from the country of the Seres)—the coarse, indigenous silk of Assam and Eastern India—was imported into Greece and Rome. The Hindoos obtained silk from Thibet and China at a very early period.

† Various authors have sought to identify this place with the modern cities of Gour, Rajmahal, Hoogly, and Duliapore; but Mr. Taylor, in his interesting and learned "Account of the Cotton Manufacture of Dacca," contends that it was identical with Bickrampore, in the district of Dacca, where the finest muslins are still produced. This place, he observes, "is regarded by the Hindoos as the site of the ancient capital of the kingdom of Bongoz (Bengal), or of the Gangaridæ of Ptolemy. A great annual fair is still held there."

J SLIEGH DEL ET LITH

N DIGBY WYATT DIREX

SPECIMEN OF INDIAN BULLION EMBROIDERY

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PLATE CXLI.

PAINTED ARABESQUE,

BY J. G. CRACE;

WITH DECORATION IN COMPOSITION BY JACKSON AND SONS, OF LONDON.

In offering, by way of illustration to the present plate, a few remarks on the successive changes which have led to the present condition of the art of decoration in England, we are attracted by a double interest —the importance of the subject in its general aspect,—and its peculiar connexion with the career of the gentlemen by whom the productions we engrave have been executed.

The style of interior decoration most usual in the present day unquestionably derives its origin, rather from the peculiarities of Italian practice than from those of Gothic architecture; and it will be unnecessary, therefore, to refer to those periods in which the latter style obtained ascendancy. So early as the reign of Henry VII. certain classical forms had intruded themselves into English art, and these, under his successor, became of comparatively frequent occurrence. Any scientific arrangement of such details was, however, scarcely recognised until the reign of Queen Elizabeth, when the mouldings and proportions of the Roman orders were so much the subject of general admiration that fashion would scarcely tolerate any reminiscence of the forms which had so long characterised the Gothic styles.

The example which Italy and France had set in adopting a more regular distribution of parts and a more academic treatment of façades, was speedily followed in England, and free translations of Lescot and Vignola were not unsuccessfully carried out by John Thorpe, Robert and Bernard Adams, Lawrence Bradshaw, Gerard Christmas, Bernard Jansen, and other artists of the period. They, indeed, in the numerous mansions which they erected, displayed a considerable mastery over the technical details of decorative art. Not only was the woodwork elaborately carved with quaint repetitions of classical details, but the ceilings were executed in handwork stucco, with great freedom and in many ingenious forms, and the walls were also frequently painted in heraldic devices and rude arabesques, displaying at least a sympathy with the more perfect works of Italian origin, if not the ability to equal them.

As the English artists of the period referred to derived their knowledge of the details of the classic styles principally from the engravings of the Italian masters and of the French and Flemish *petits-maîtres*, considerable uncertainty existed as to the scale to which those details were most applicable. Hence the frequent reproduction, in a cabinet form, of parts suited only for colossal dimensions. As, however, the English became acquainted by foreign travel with the great works upon the Continent, so their sense of the capabilities of the classic styles became enlarged and corrected. The travels of John Shute, who, under the protection of Dudley, duke of Northumberland, visited Italy in the reign of Queen Elizabeth; those of Robert Adams, at a somewhat subsequent period; and those of Inigo Jones, at the commencement of the seventeenth century, tended in a high degree to promote a correct knowledge of the features which are most important to external architecture, and of those superficial enrichments which are properly applicable to internal decoration.

In the Banquetting-house at Whitehall, the last-mentioned artist displayed his grandest conceptions of palatial magnificence; exhibiting his sympathy with that phase of art which in Italy covered the entire surfaces of important interiors with pictures by Correggio, Guido, Domenichino, and the Caracci. Magnificence was, indeed, essentially the characteristic of Inigo Jones; and we are probably indebted to him for that profusion

of technical skill which, during the whole of the succeeding century, was lavished upon the architraves, cornices, mouldings, &c. of doors and windows, throughout all the houses erected for our nobility.

The designs made by Sir C. Wren for the decoration of St. Paul's Cathedral are clearly based upon the study of contemporary works in Italy; for we find in them the same sprawling exuberance into which the followers of the Caracci ultimately degenerated: and whether in the works of Sir James Thornhill, of Verrio, or of Laguerre, we are alike reminded of Mantua, of Parma, and of Bologna. As may be naturally supposed, the styles of most of the successors of Jones and Wren strongly partook of the characteristics of their great prototypes; and the works of Webb, Hawksmoor, Gibbs, Vanbrugh, Aldrich, and Colin Campbell, attest that those architects had studied only the exterior forms of architecture, without perceiving in what degree they should be modified for the purpose of internal adornment.

At the commencement of the eighteenth century a new element was introduced in decoration by William Kent, who, by his early education as a painter, and his comparative ignorance of the details of formative art, was induced to confine himself, in his designs for interiors, mainly to surface decoration; and hence, perhaps unconsciously, became one of the earliest reformers of the heavy proportions of his predecessors. His great facilities, however, as a rapid and skilful draftsman, tempted him to a too prodigal use of enrichment. The character of Kent's ornamentation assimilated to a great extent with that prevalent in France at the same period; and Lepautre and Lafage supplied his prolific imagination with types for its material embodiment. From scarcely less questionable sources did Robert Adam devise those thin lines and attenuated forms which in the buildings of the Adelphi; at Luton Park, Bedfordshire; at Caen Wood, Hampstead, and in similar edifices, reproduced the most debased period of Roman art,—that of Diocletian.

The extravagancies of the two last-named artists were, however, admirably checked by the advent of Stuart and Revett, whose publication in the year 1762 of the well-known "Antiquities of Athens," speedily led to a purification of public taste. Sir William Chambers, although more especially a student of Italian models, derived much benefit from this improved sympathy with true beauty in art; and exhibited as much talent in the enrichment and decoration of his interiors, as in the admirable proportions of his exteriors. Unfortunately, he rarely superadded colour to the former; but his treatment of ornaments in low relief, and the setting out of his panelling, are invariably based upon correct principles, and admirably adapted to harmonise with the richest styles of internal finishing.

The practical execution of the decorations designed by several of the last-named architects was entrusted to a class of men of considerable intelligence; and among them few were more remarkable than the immediate ancestors of Mr. Crace. When, under the direction of Mr. Holland,* the Prince of Wales determined on carrying out extensive decorations at Carlton House, the conduct of the works was entrusted to Mr. Crace's grandfather; and the same artist laboured with great success at Lord Willoughby's in Piccadilly, the Marquis of Abercorn's at Stanmore, the Old Pantheon, and other theatres and mansions. Mr. Crace's father executed numerous important decorative works at Brighton, Windsor Castle, Carlton House, &c. under the superintendence of Sir Jeffrey Wyatville, Mr. Nash, Sir John Soane, and other celebrated architects. Mr. John Gregory Crace has himself devoted considerable personal study to the history and practice of his art, with a degree of success which is attested not only by the works he has executed, but by his contributions to the transactions of the scientific societies of the metropolis. Some of his principal works in the Italian style have been executed for the Duke of Devonshire at Chatsworth, Devonshire House, and Lismore Castle; and for the Marquis of Breadalbane at Taymouth Castle; whilst his competency for the successful treatment of mediæval art is amply shown by his connexion during many years with Sir Charles Barry and the late Mr. Pugin, at the Houses of Parliament and elsewhere.

In the application of composition and papier mâché to decorative purposes, Messrs. Jackson and Sons occupy a no less creditable position than that of Mr. Crace in general decoration. For very many years they have been extensively engaged in fitting up the principal theatres, public rooms, and mansions of the country; and the personal attainments of the present principal of the firm may be regarded as no less remarkable than the energy and success with which they have been applied to the practical purposes of his art.

* This gentleman, who, though by no means faultless as an architect, was animated by a true love of his art, earnestly sought to restore a taste for arabesque decoration; and, when engaged on the works in Carlton House, he not only employed the talents of Rebecca, and other English artists of repute, but obtained the consent of His Majesty George the Fourth to the employment of many artists of distinction from the Continent. Among these were MM. Boileau, Labrierre, Champerny, and Turnis, who imparted their skill to numerous pupils of great ability: amongst the latter to Mr. Jones, who unfortunately failed to receive that encouragement which his talents deserved.

F SMALLFIELD, DEL. M DIGBY WYATT DIREXT. F BEDFORD LITH.

PAINTED ARABESQUE BY J.G.CRACE. WITH DECORATIONS IN COMPOSITION BY JACKSON & SONS. OF LONDON.

LONDON. PRINTED AND PUBLISHED FEBY 1ST 1853. BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXLII.

ALTAR AND REREDOS,

DESIGNED BY THE LATE A. W. PUGIN; CARVED IN STONE BY MYERS OF LONDON; AND FITTED UP BY HARDMAN OF BIRMINGHAM.

We have had the satisfaction, in the course of the present work, to advert, on several occasions, to the exquisite designs of the late Mr. Pugin for the decoration of buildings, executed in the various styles of the middle ages. The death of an artist so distinguished by genius, enthusiasm, and energy, must at any time and under any circumstances have been regarded as a loss to the arts of his country; but occurring as it did in the maturity of his career, and under the recent affliction of mental disease, produced by the too active exercise of his rare talents, that event excited, throughout the world of literature and art, a deep and more than ordinarily painful sensation.

In referring, for the last time, to the productions of this gifted artist, we shall endeavour to place on permanent record the leading particulars of his public life; regretting at the same time that our notice must be limited to little more than an enumeration of his literary publications, and some of his most important architectural designs.* Augustus Northmore Welby Pugin was born in London, in the year 1811. His father, Augustus Pugin, was a native of France, and took up his residence in England at the time of the first Revolution. Although for some time in the office of the late John Nash, he is less known as an architect than by his admirable illustrations of Gothic architecture. In most of these he was associated with Mr. Britton, whose valuable works on that subject tended greatly to that general knowledge of the details of national art which is now so widely spread. This association induced the elder Pugin, in the year 1820, to commence a series of "Specimens of Gothic Architecture." In the "Architectural Antiquities of Normandy" (1827), the same parties were connected with Messrs. John and Henry Le Keux, the great masters of architectural engraving; and among the other works of Mr. Pugin, senior, we may mention "Illustrations of Gothic Ornaments" (1831), and "Examples of Gothic Architecture" (1830); the latter carried on, after his decease, by the subject of our memoir, and completed by Mr. T. L. Walker.

Mr. Welby Pugin, from assisting his father in the preparation of these works, acquired at a very early age that facility of drawing which distinguished him through life. Although for some time a private pupil at Christ's Hospital, his early life was somewhat unsettled and wandering. He, however, accompanied his father in his travels, and thus acquired an ardent love for the beauties of mediæval church architecture. When but a young man he exercised his pencil for nearly two years in assisting Messrs. Grieve, the able artists of Her Majesty's and Covent Garden Theatres, in the preparation of their architectural scenery. For Messrs. Morel and Seddon he designed and made working drawings for the furniture required for Windsor Castle; and for Messrs. Rundell and Bridge he undertook a similar task in connexion with some plate in the mediæval style: but of these works he often afterwards expressed very unfavourable opinions. We are told by Mr. Bury that he embarked at an early age in the manufacture of Gothic furniture and similar works, but that undertaking proved unsuccessful.

On the death of his parents, in the year 1833, Mr. Pugin very soon displayed his extraordinary powers, both as an architect and as an author. We may enumerate his publications in the order of their date as

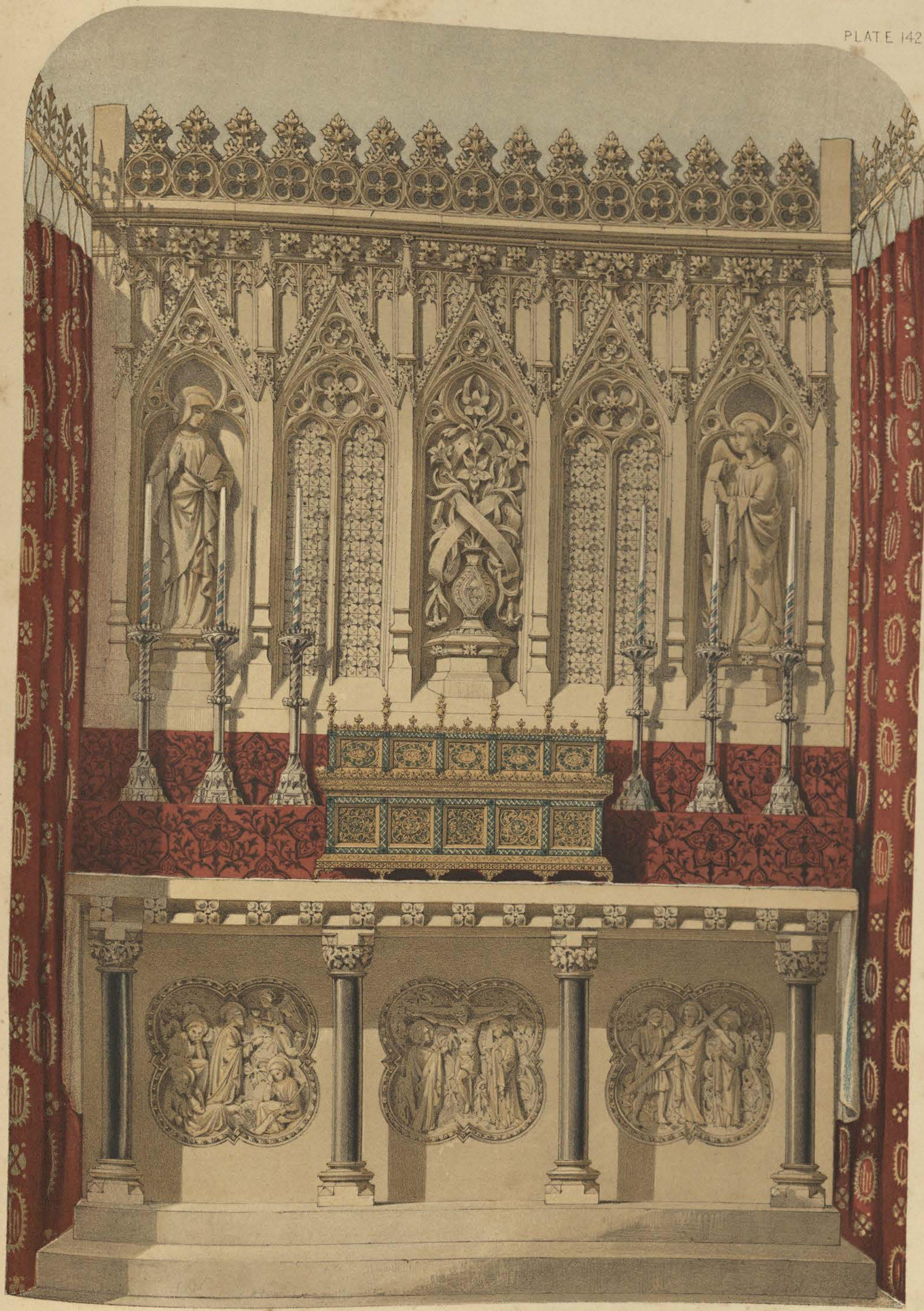
* We have to express our obligations to a brief memoir of Mr. Pugin by his old friend and fellow-pupil, Mr. Talbot Bury, published in the "Builder" of the 25th of September last, with some additional remarks by the Editor of that useful periodical.

follows:—In 1835, "Designs for Gothic Furniture," drawn and etched by himself,—the success of which led, in the same year, to his "Designs for Gothic Iron Work," in which he adopted that which became his favourite motto, *En avant*. In the next year he produced "Designs for Gold and Silver Work," "Examples of Ancient Timber Houses," and a volume which could not fail to excite the utmost attention from its fearless originality,—"Contrasts; or, a Parallel between the noble Edifices of the Fourteenth and Fifteenth Centuries, and similar Buildings of the present day, showing the present decay of taste." Engaged from this time in the practice of his profession, Mr. Pugin did not produce any important literary work till the year 1841, when his valuable publication on "The True Principles of Pointed, or Christian Architecture," made its appearance. In May 1841, and February 1842, Mr. Pugin contributed anonymously to the "Dublin Review" two able articles "On the Present State of Ecclesiastical Architecture in England;" and these were reprinted as a separate work in 1843. In 1843 he published "An Apology for the Revival of Christian Architecture;" in 1844, another valuable work, entitled "A Glossary of Ecclesiastical Ornament;" and in 1849, "A Series of Thirty-one Designs for Floriated Ornament." It is difficult to overrate the labour, ability, and characteristic novelty of these various works. They do not, however, comprise the whole of his literary efforts; for besides his latest work, in 1851, "On Chancel Screens and Rood Lofts, their Antiquity and Symbolic Signification," he was constantly engaged in the preparation of pamphlets, and in correspondence on matters connected with his favourite study.

About the year 1834 he avowed himself a convert to that faith, to a study of the external splendours of which his energies had long been dedicated; and from that time he actively embarked as an architect in designing edifices devoted to the rites of his religion.* His first church, Mr. Bury states, was that of St. Mary, at Derby. He then executed a chapel at Reading; St. Chad's Church, Birmingham, with nunnery, &c. adjoining; and amongst the many buildings which he designed and superintended we may mention four churches at Liverpool; others at Manchester, Kenilworth, Oxford, Cambridge, Stockton-on-Tees, Newcastle-on-Tyne, Preston, Rugby, Northampton, Stoke-upon-Trent, Woolwich, Hammersmith, Fulham, Nottingham, and many other towns; colleges at Radcliffe, Rugby, and Maynooth; the cathedrals of Killarney, Enniscorthy, and St. George's, Southwark; and especially the rich and magnificent church at Cheadle in Staffordshire, erected for his patron, the Earl of Shrewsbury. His valuable assistance to Sir Charles Barry, in carrying out the details of the New Palace of Westminster, is too well known to need more than a passing notice; whilst the Mediæval Court, in the Exhibition of All Nations, presented a striking memorial of his taste and skill.

At Ramsgate Mr. Pugin erected, at his own expense, a church dedicated to St. Augustine, with a school and other buildings attached; and in an adjacent house, forming part of the general group, he resided till the early part of the present year. Then it was that the grief of his friends and the public was excited by the intelligence that his mind had given way; and although he rallied sufficiently to be removed to his home again from the asylum in which he had been placed, he died in an epileptic fit on Tuesday, the 14th of September, 1852. His remains were interred in his own church on the 21st. The reader will find some interesting comments on the personal characteristics of Mr. Pugin in the articles to which we have already referred. Our limits will only enable us to advert to the exertions of the three gentlemen whom we have last mentioned in conjunction with the deceased architect. Mr. Myers has been most successfully connected for many years with all Mr. Pugin's larger works, of the elaborate nature of the majority of which our present engraving may convey some slight idea. We have already illustrated the productions of Mr. Crace and Mr. Hardman; and in reference to the latter we may state, that his connexion with Mr. Pugin commenced about the year 1834, on the occasion of the last-named gentleman being consulted in reference to the chapel of St. Mary's College, at Oscot, near Birmingham. The merit of some revivals of mediæval brass-work by Mr. Hardman, and the congeniality of their tastes, immediately brought them into close association. The difficulty of procuring metal-work in accordance with the buildings designed by Mr. Pugin led to the formation, in 1838, of the establishment of Messrs. John Hardman and Co., in Great Charles Street, Birmingham; and after some comparative failures, and much pains bestowed in the instruction of the workmen, they have succeeded in producing works which rival the best productions of the Middle Ages. Of these, amongst many others, we may advert (not as the best, but as a familiar example) to the brass gates, railings, and candelabra in the House of Lords. Messrs. Hardman have added embroidery and stained glass to their works in metal with the greatest success.

* Mr. George Godwin reminds us that Mr. Pugin's father was a Roman Catholic, his mother a Protestant, "and that his early predilections were, at all events, divided."



M. DIGBY WYATT, DIREXT.

F. BEDFORD LITH.

ALTAR AND REREDOS DESIGNED BY THE LATE A.W. PUGIN, CARVED IN STONE BY MYERS OF LONDON, AND FITTED-UP BY HARDMAN OF BIRMINGHAM.

LONDON, PRINTED AND PUBLISHED FEBY 1ST 1853 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXLIII.

SIDEBOARD CARVED IN OAK,

BY JACKSON AND GRAHAM OF LONDON.

The piece of furniture represented in the accompanying plate is a production which does credit both to the firm at whose establishment it was manufactured, and to the various artificers actually engaged upon its execution; among whom we have much pleasure in mentioning the name of the designer—Mr. Eugène Prignot. The style of the work is a happy adaptation of the English revival of antique art most generally known under the name of Elizabethan, and there is much taste displayed both in the selection and carrying out of the various ornamental details. The front panels of the lower portion are enriched with trophies of the sports of hunting and fishing; in those at the ends, the implements connected with husbandry and the vintage are represented. The figures of children, introduced as supporters at the angles, are intended to impersonate those different sports and the branches of industry emblematised by the subjects in the panels. Thus we may recognise among them the sportsman, the fisherman, the reaper, and the wine-presser. The heads of animals carved in the frieze have been also introduced in allusion to the same subjects.

From some particulars obligingly furnished by Messrs. Jackson and Graham, we learn that the material of this sideboard—English oak—was grown in the county of Hereford, a district remarkable for producing a superior quality of this wood; of which the object engraved certainly presented a most favourable specimen. The modelling and carving were entirely executed by workmen in the employ of the firm, on their own premises; and the work altogether occupied about six months.

We shall now proceed with our historical sketch of English furniture, in continuation of our last notice (Plate CXXV.), in which we described the various articles of furniture chiefly used in England during the fifteenth century; briefly noticing the general arrangements which obtained at that period.

The walls of the best rooms were hung with arras, or painted cloth, or in the latter part of the century were wainscotted. The term arras was derived from the town of that name, whence were exported vast quantities of tapestry. The earlier specimens of this fabric have simply some badge, flower, or device, repeated as a diaper. As the art of working such hangings progressed, however, complete histories were made to decorate the walls of the principal apartments in noble mansions: the most common subject being that of the siege of Troy, treated in a style somewhat similar to that of the tapestry formerly in the Painted Chamber at Westminster. Such precious hangings, as we may well imagine, were removed with the other furniture, whenever the owner journeyed from one house to another; and the glass windows were generally made to perform the same migration. Over the seat of the king, or lord, was suspended a species of canopy, consisting of a piece of rich stuff, partly hanging from the ceiling and partly occupying the back of his seat: this was called the cloth of estate, and was often decorated with jewels, "semé" with escutcheons, or the cognizances of the family, or richly embroidered with legends, powderings, or other suitable devices. Occasionally it bore the name of "baldequin," or "baudekin," from the Italian "baldachino," or, more probably, from the stuff of the same name which frequently constituted the material of the cloth of estate, and was so called from Baldacca, or Babalon, in Egypt, where it was first made.

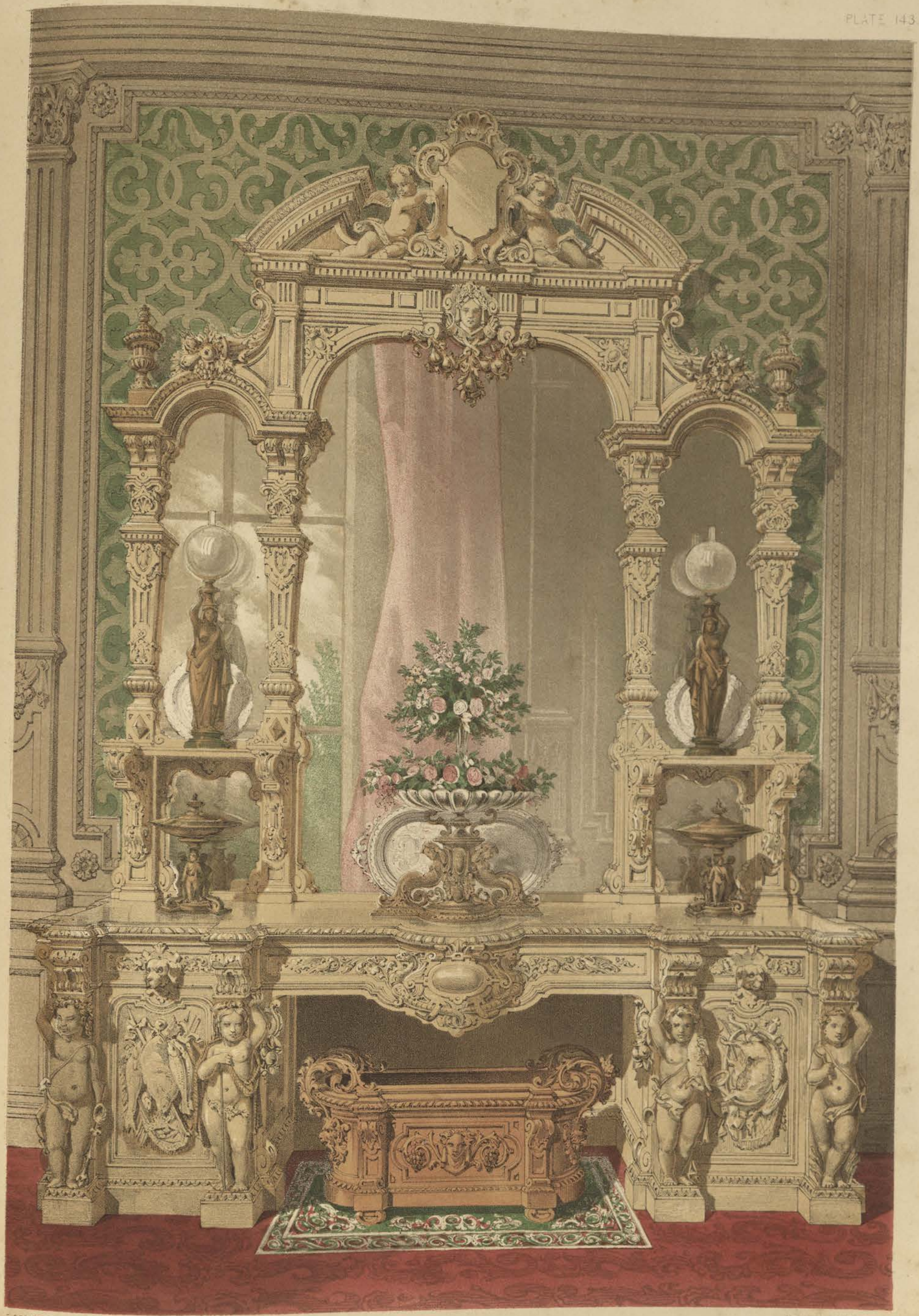
A hall of the fifteenth century had but little furniture. On the dais stood the lord's table, with the

cloth of estate over his seat; the rest of the guests were accommodated with benches. Two other tables, with trestles at right angles to the principal one, occupied the rest of the apartment. A fire burned in the middle of the apartment, and the smoke made its exit by the louvre, or "fumorel," in the roof. A "standing" cupboard, garnished with "vaisselle," or, in less rich dwellings, with pewter dishes, commonly occupied the recess of the great oriel, and completed the arrangement.

The parlour generally contained the best furniture possessed by the owner; the walls were covered with tapestry, and frequently there were seats all round the room. The windows were not always glazed; and in such a case the lower parts were occupied by wooden lattice-work, while the upper portion remained open to the air. A small mirror, generally convex, was attached to the tapestry in some conspicuous situation. A large bench stood before the fireplace; and occasionally a clock, not unlike the Dutch ones of our own day, occupied one corner of the room. A lobby, or screen of wainscoat, kept off the draught, and may frequently be seen represented in the illuminations of the period. Occasionally the whole room was wainscotted, reminding us of the earlier "lambruscation" mentioned in the liberate rolls of Henry III. Several apartments leading to the Jerusalem Chamber in Westminster Abbey remain in their original state, both as regards the woodwork and the glazing; the latter consisting of sundry coats of arms in a ground of white quarries. The whole effect is rather dull and monotonous, and must have been vastly inferior to that of those places in which tapestry was employed.

The other rooms were more or less splendidly furnished according to their destination, and it would appear that towards the end of the century linen was in common use, since even the servants very often enjoyed the luxury of sleeping in sheets.

With regard to the acquisition of objects calculated to appeal to the intellect, such as books and pictures, but little had been done in the two centuries preceding the fifteenth; although in earlier ages both the rich ecclesiastics, and occasionally the higher nobles, had shown considerable sympathy with the polite arts. The influence of a few men of elegant pursuits, such as the celebrated Lord Hastings, tended, however, to revive a taste for the accumulation of such possessions, and induced King Edward IV. to exert himself in the collection of a splendid library, by getting MSS. illuminated at Bruges and elsewhere, under the inspection of Louis de Grutheuse, the possessor of the most gorgeous series of such works of the period. The highly valuable and interesting Inventory of the possessions of Henry VII., now preserved in the Record Office at Carlton Ride, throws much light on the precise nature of those "properties" by means of which the stage effect of royalty was maintained at this period. Furniture, hangings, apparel, books, pictures, and miscellaneous effects were collected by this avaricious old sovereign; and there can be no doubt that the collections of few of the contemporary European monarchs could rival that of which the above-mentioned inventory presents us so curious a picture. Henry VIII. went, however, far beyond his predecessors; and not only patronised Jean de Mabuse and Holbein, but had a picture-gallery of his own, which afterwards formed the nucleus of that of Charles I. In the inventory none of the artists names are mentioned, and the pictures are divided into two sorts,—viz. tables (painted on panels), and stained cloths (canvass pictures): the subjects consisted of his patron-saints or avouteries, portraits of himself, and caricatures of the Pope.



F. BEDFORD. LITH.

M. DIGBY WYATT. DIREXT.

SIDEBOARD CARVED IN OAK BY JACKSON & GRAHAM OF LONDON.

LONDON. PRINTED AND PUBLISHED FEBY 1ST 1853. BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXLIV.

SWISS EMBROIDERY.

The females of Switzerland have long been famous for their dexterity in those arts of needlework and embroidery which have been practised, more or less extensively, in all civilised countries, ancient and modern; and the introduction into this work of the specimen which we now engrave, which well maintains the national reputation in this agreeable art, will give us occasion to record a few particulars of the manner in which it is exercised in the country we have mentioned.

Although the various branches of the cotton-manufacture—from the spinning of the yarn to the production of the exquisite muslins and laces upon which the embroiderer has to work—are, in some of the principal towns of Switzerland, conducted in large establishments, the processes of spinning, of weaving, and of lace-making, are far more generally carried on in the humble dwellings of the work-people; and in rural districts, the labours of the spindle and the loom succeed in the evening those of the field during the day, and in the winter almost entirely supersede the latter. Large quantities of the finer kinds of cotton-twist are, however, imported from this country; for the peculiar inland situation of Switzerland renders the supply of raw cotton so costly, that it has been calculated that a bale of cotton may be conveyed from Charleston, United States, to Manchester, at a less cost than from Genoa, or the Dutch ports, to Switzerland.

We need not, on this occasion, dwell upon the subject of the general textile manufactures of the Swiss, but we may remind our readers of the brilliancy and durability of their dyes, and the taste with which they employ colour in the decoration of cotton goods. The printing of these objects is carried on extensively in Neufchâtel, and the admirable results obtained are by some writers ascribed to the peculiar quality of the water used.

The manufacture of lace was carried on with much success at Geneva, as early as the sixteenth century; but, whilst it employs numerous females in different parts of the country, the chief seat of this trade may be said to be the town of Neufchâtel, where it was introduced by the refugees expelled from France on the revocation of the Edict of Nantes. In the year 1834, upwards of 4000 persons were employed in lace-making in the neighbourhood referred to; and the numbers had then seriously decreased, owing to the competition with machine-made lace. According to their skill and assiduity, the women thus employed earn from one to three francs per day.*

The art of the *embroiderer* is chiefly devoted to the elaborate decoration of lace and muslin; and we learn from a valuable document by M. Zellweger, of Trogen, appended to Dr. Bowring's "Report," that "the merchants who deal in embroidered goods purchase plain muslins and choose the patterns, or sketch them themselves; after which they have them engraved by the best artists. The pattern is then printed or stamped upon the muslin, and then handed over to the embroiderer to be completed. Each individual only performs a certain part, so that the piece of embroidery, where there are three or four different figures or patterns, passes through the hands of as many work-people. This work is generally executed by women, or young lads, and their earnings, on an average, are about 18 kreutzers (about 6½*d.*) a-day.

* "Report on the Commerce and Manufactures of Switzerland, by John Bowring, LL.D. 1836. Presented to Parliament by command of Her Majesty."

With these preliminary remarks we may proceed to quote the facts and opinions put on record by the Jurors of Class XIX. of the Great Exhibition, in reference to the class of productions now under our consideration:—"Switzerland has largely availed herself of the benefits held out by this Exhibition, and well sustained her long-enjoyed celebrity for both lace and muslin embroidery of every description. It will be seen by the numerous articles shown, displaying at once cultivated taste and excellence of work, combined with cheapness and utility, that her motto is Progression; and, as stated by one of her manufacturers, 'under the beneficial effects of free trade the Swiss sewed-muslin trade has made enormous progress.' From the variety of articles manufactured, the excellence of the work, and the beauty of the design, the manufacturers send their productions to all parts of the globe, and find ready sale, even where they are met by hostile tariffs. The hands available for needlework in Switzerland are no longer sufficient to satisfy the demand, and the Swiss manufacturers are employing large numbers in the eastern provinces of Austria and the southern provinces of the Duchy of Baden.

"It would be difficult to state the exact numbers employed in this branch of manufacture, the hands not being in factories or large rooms, as is frequently the case in this country; the pattern being stamped or printed on the muslin or net, and given out to workers at their own homes, so that many do their household work and fill up their time with this embroidery: there cannot, however, be less than 40,000 earning their living by this branch of industry. A good steady hand can earn in ordinary times 1*s.* per day; second-class hands, down to children, range from 3*d.* to 8*d.* per day. The needlewomen of Appenzell (Rhodes intérieures) are noted as the most skilful workers in sewed muslin, &c., hence the finest and most difficult work is done there, and the highest wages are received.

"Those articles in which cheapness is the recommendation are done by the needlewomen of St. Gall, Vorarlburg, and Baden. It is estimated that 100,000 pairs of curtains alone are annually imported into Great Britain, at prices varying from 3*s.* to 100*s.* per pair, paying a duty of fifteen per cent. The Swiss manufacturers do not regard England as their best customer; they export largely to North and South America,* Germany, Italy, Spain, and other southern countries. The trade is steadily progressing, and is principally conducted by the manufacturers of the Canton of Appenzell, a few only residing at St. Gall, where they have a market on Wednesdays and Saturdays for the transaction of business."

We may here observe, that it is only by combining such work as we have described with their ordinary domestic occupations, that the Swiss are enabled to reduce the rate of wages to that small amount which gives to their productions the merit of extreme cheapness, as well as excellence,—an observation which applies both to their weaving and embroidery. We have in other articles described the machine-made lace of Nottingham, and it will be found that in the year 1846 the young women of that town did not earn more than 1*s.* for a day's work of fourteen hours on the finest specimens of embroidery; the depressed condition of the trade at that time being ascribed by Mr. M'Culloch† to the competition of the Belgians, who, like the Swiss, are exceedingly expert in this beautiful art. The same writer adds, that "the embroidery frame is most destructive to health. The workers in general commence at a tender age, and from constantly leaning over the frame, while their bodies remain in a state of inactivity, they are frequently distorted in their persons, and become the victims of pulmonary disease."

In conclusion, we may state that prize-medals were awarded by the jurors of the late Exhibition to ten different establishments in Switzerland for specimens of lace and embroidery; those produced by MM. Tanner and Sutter—both of Bühler, in the Canton of Appenzell—being eulogised as especially worthy of that distinction, for their admirable execution and tasteful design. In the latter quality, however, the remarks of the Jury should be taken with some reservation, since the introduction of human figures (for example, "William Tell in the Storm"), animals, landscapes, and armorial bearings, in some of the works referred to, evince a misconception of the subjects properly adapted to the delicate fabrics which they were intended to adorn.

* As much as a century ago fine Swiss muslins were purchased in America, and used as a protection from the musquitos.

† "Dictionary of Commerce (article, Lace)."

PLATE CXLV.

GROUP OF ENAMELLED OBJECTS,

BY MOREL AND CO. OF LONDON.

We have shown in a former Plate (CVII.) some beautiful specimens of M. Morel's skill in the addition of enamelled enrichments to his choice works in metal; and we take the present opportunity of saying a few words of the artist's career. M. Morel has achieved his high position by persevering industry and earnest study, in spite of considerable discouragement. As *chef d'atelier* of M. Fossier, he is known to have executed several fine works, of which we may mention the hilt of the sword presented to the Comte de Paris by that city; in this he introduced figures executed in repoussé, a mode of working the present popularity of which he has been mainly instrumental in creating. In 1842, M. Morel started an establishment of his own; and as early as 1844, at the Exposition of that year, we find his *atelier* classed with the first in France, and he received on that occasion the gold medal. M. Morel deservedly received considerable patronage from the late royal family of France, and from many distinguished connoisseurs, such as the Duke de Luynes, the Count Demidoff, the Baron Cambacéres, in whose collections some of the artist's choicest works are to be found.

At the unsettled period of the last French Revolution, M. Morel transferred his talents to this country, where he has since resided. The series of objects displayed by the firm at the Great Exhibition was particularly remarkable for the delicacy of the chasing and the beauty of the enamelled enrichments, and the Jury accordingly awarded them a Council medal for the excellence of their productions.

We shall now continue our historical sketch of the history of the art of enamelling from Plate CVII.

According to Vasari, the invention of the process of executing translucid enamels on relief is due to Giovanni Pisano; one of those great artists who, in conjunction with his father and the still more celebrated Giotto, were the first to relieve Italian art from the trammels of the Byzantine school, and to commence that uninterrupted succession of great masters which eventually raised the art of their native country to the same position in the modern world as that occupied by Greece in the ancient. Nearly all the cloisonné enamels were made separately from the articles they were intended to ornament, and were generally set in "chatons," or independent mountings, much in the same manner as gems. The new invention was an attempt to substitute something more artistic and attractive than the often meaningless patterns exhibited by the convolutions of the gold bands which formed the receptacles for the enamels of the cloisonné period. Accordingly, in 1286, Giovanni Pisano ornamented the highly-finished altar of the Cathedral of Arezzo with sundry marble statuettes, and, among other decorations, with "smalti posti sopra piastre d'argento," which may be generally paraphrased as "silver bas-reliefs with coloured enamels."

The whole process, as handed down to us in the "Trattato dell' Oreficeria" of Cellini, appears to have required no small skill, both artistic and manipulative, on the part of the workman, whose first care was to sink upon a thin plate of silver the surface to be occupied by the subject to the thickness of two or three leaves of paper. Upon this lowered surface the figures and their accessories were carefully sculptured in low relief, by means of delicate gravers, chasing-tools, &c., but in such a manner as to avoid bringing two sunk edges together, the object being to give as little opportunity as possible for the enamels to run into one another. These were then thinly spread over the various parts by means of a small spatula, and the

whole was gradually introduced into the centre of the furnace, from which it was withdrawn when the colours were just fused: the same process was then repeated a second time. The reason for taking the plate twice to the furnace appears to be, that in a thick coating of enamel the colours would have been more likely to intermingle than in two successive layers; and in some specimens, where this precaution has been neglected, the colours have actually run together, and to a certain degree injured the effect of the work.

Giovanni Pisano was not only the inventor of this art, but had the satisfaction of founding a school of artist-enamellers, whose productions have never been surpassed, and among whose names are to be found those of most of the great sculptors of the Middle Ages. Thus Agostino and Agnolo di Sienna were his pupils and fellow-workmen. To them succeeded Pietro and Paolo d'Arezzo, who made the famous enamelled reliquary to receive the head of St. Donato, bishop of that city. The two Ghiberti were also celebrated for their proficiency, but appear to have been surpassed by Antonio Pollaiuolo (the pupil of Ghiberti), whose productions were executed with so much delicacy that Vasari declares that no miniature could excel them. We can only mention the names of Francia, Caradosso, and Cellini: to the latter we owe our knowledge of the details of the process; but at that time the fashion had to a certain degree changed, and jewels, certain parts of which were enamelled, were more commonly required.

Early in the fourteenth century we find some traces of the process of translucid enamel-working being introduced into France, and eventually the artists of that country became very skilful; so much so as to merit the encomium of Cellini, who especially praises both the French and Flemish enamellers. The process which we have described above, however, was only practised by first-rate artists, as it presented great difficulties, only to be surmounted by very considerable manipulative skill. It is for this reason that the greater part of the English and French works, which contain translucid enamels, are generally defective in some particular. For instance, it requires a good artist to represent a three-quarter face in bas-relief; this difficulty was frequently overcome by not colouring the face at all, leaving it quite plain above the surface of the enamel, and expressing the features by means of engraving alone. But the most common method was to fill in the ground only with a transparent enamel, leaving the figures in the plain metal as in the champlevé-work. The surface for the ground was engraved with a diaper, which Cellini assures us was necessary to prevent the enamels from becoming loose: this, in fact, was the old Limoges process, but on a smaller scale, and with different materials. By far the greater number of the English and French works were executed in this manner,—a fact which we can only account for by supposing that the majority of goldsmiths did not possess the requisite skill; and, indeed, we seldom hear of any of that trade becoming sculptors or painters, as was the case with their Italian brethren. The Lynn cup, the clasps of the cover to the agreement of King Henry VII. made with the Chapter of Westminster in respect to the construction of his chapel, and the Bruce horn, are perhaps the finest examples of translucid work now remaining in England; but we have only to refer to any of the inventories of our sovereigns to find how often the word "enamelled" occurs in conjunction with gold and silver "vessaille." The same may be said with regard to those of Charles V. and VI. of France, and that of the Duke of Anjou, brother of the former king, from which M. Labarte has published some interesting extracts in his excellent work upon the Debruge Duménil collection. These enamels were almost always made separately, and afterwards set in a "chaton," so that in the extracts we generally find them described as placed at the bottom of basins, &c., or adorning the bases of statuettes, or the feet of hanaps and ewers. This peculiarity was evidently taken advantage of by dishonest goldsmiths, for we find an ordinance, dated 1355, forbidding them to place chalk under the enamels to increase the weight of the *orfèvrerie* which was then sold by weight: another proof that the majority of the enamels were not of a valuable nature.

Translucid enamels were also much employed in decorating those bizarre vessels which almost come under the denomination of large jewels, and which were so much in fashion at the period in question. Thus, in the inventory of the Duke of Anjou above mentioned, an ewer is mentioned as fabricated in the form of a cock, the body and tail of which were of "perle," and the neck, head, and wings of silver,—"Esmaillié de jaune, de vert, et d'azur." There are many other articles mentioned, equally rich and fantastic, the majority of which had doubtless been received as fines or presents, and would probably be disposed of when any difficulty arose with regard to paying troops or fortifying towns.

GROUP OF ENAMELLED OBJECTS BY MOREL OF LONDON

LONDON, PRINTED AND PUBLISHED [illegible] 1853 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXLVI.

SPECIMEN OF POINT-LACE,

BY MISS JANE CLARKE OF LONDON.

In the remarks with which we accompanied Plates XXX. and CII. we attempted to indicate briefly the peculiarities involved in the manufacture of run or embroidered, and of machine-made, lace; on the present occasion our notices will be confined to that variety known as "point;" of the successful revival of the until lately extinct processes involved in forming which the object we engrave afforded so admirable a specimen. Strictly speaking, the term "point," as applied to lace, is correctly employed only in designating those fabrics which are formed by the needle alone, and in which the whole texture is wrought out by "overcasting" or looping a single thread in a variety of complicated stitches; very generally, however, the term is applied to varieties of embroidery, and even to combinations of pure "point" with pillow groundwork, as in the fabric known as old Brussels point.

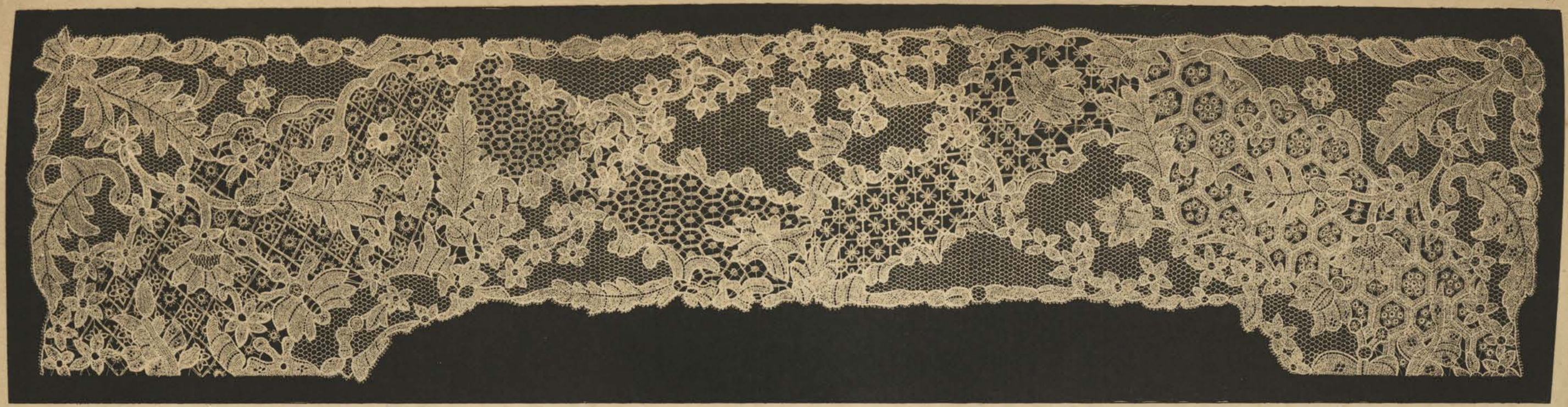
Among the best authorities upon the subject the question has been much debated as to whether the "lacinia" of the ancients, from which the term lace is supposed to have been derived, consisted of lace worked with the needle, or of open-work embroidery only. Unfortunately the statues of antiquity fail to supply us with any definite details of the rich hems to the garments of the ladies, which were known as "Phrygian work" to have cost great sums of money. The best authority upon the subject may be met with in the drawings on the finer Nolan Vases, which show pretty clearly that the "lacinia" consisted both of embroidery on the edge of the robe, and of fringe formed by unravelling the end of the tissue and then plaiting the ends of the warp threads into geometrical patterns. That every variety of precious needle-work was known to the Byzantine Greeks there can be no doubt, as for some centuries the finest vestments and the richest orphreys were embroidered and worked for the imperial state and the maintenance of the sumptuous dignity of the Church. From the Greeks, whom the iconoclastic troubles drove to take refuge in the Scuola Greca, and other similar institutions in Italy, it appears highly probable that the ancient cunning of fine needlework was acquired by the inhabitants of the last-named country. We can be but little surprised, therefore, to recognise in the earliest works of the Siennese and Florentine masters indications of the existence and frequent use of all varieties of needle-worked lace. Not only do we recognise the peculiar twisted fringe of the ancients, popular even to the present day among the Calabrian peasants, but the pierced work resembling lace formed by cutting out portions of fine linen, and edging round the openings so formed in geometrical patterns with button-hole stitch. That these two varieties of working preceded regular point appears most probable, since although specimens of the former are common in the works of the painters of the fourteenth and fifteenth centuries, it is not until toward the beginning of the sixteenth century that any evidence of the existence of the art of working the latter is to be found.

The theory of the Byzantine origin of point-lace receives some confirmation from the fact, that its earliest developement in Italy may be traced to those very localities which maintained the most intimate commercial relations with the Greek Empire; thus at Venice and Genoa, especially the former, the art flourished, and to how great an extent is clearly shown in many old paintings by Carlo Crivelli, and yet more strikingly in the valuable costume pictures of Carpaccio, preserved in the Academy of Fine Arts on the Grand Canal.

The manufacture once started in these great centres of traffic, its products were rapidly diffused over the whole continent of Europe, and the ladies vied with one another in enriching their ruffs, tuckers, hanging sleeves, fardingales, and cuffs, with borders of this costly material, while the gentlemen wore it as an ornament to their collars and manchettes, and even ultimately as a trimming to their boots.

Vast quantities were manufactured in the Italian convents for the service of the Church, not only by way of rich hangings for the altar, but as apparels to the albs and surplices of the priests and deacons. The patterns of such laces were originally geometrical only; and it is curious, that among the earliest books, printed from wood-blocks in Italy, should have been collections of such designs for the use of nuns and embroiderers. These little works have now become of considerable rarity; some very interesting specimens were, however, lately in the possession of Mr. Dennistoun of Dennistoun. From 1550 to 1650 was the period during which the Venetian and Genoese point-lace was held in the highest estimation throughout Europe, with the exception of Spain, in which country the execution of a similar fabric was carried to the utmost perfection. The Spanish lace, however, beautiful as it was, never obtained a commercial reputation. Toward the close of the sixteenth century the whole style of the patterns for point-lace changed from the geometrical into the scroll and shell-work style. A comparison of the lace displayed in the pictures of Honthorst, Sir Antonio Moore, Holbein, or Zuccaro, with that in those of Vandyke, Jansens, Mytens, or Sustermans, will at once illustrate the peculiarities of the earlier and later styles of pattern. In France, Germany, and England, point-lace, although occasionally made, never reached the perfection it attained in Italy and Spain. The latest kind of really rich point-lace, however, that known as "Huguenot lace," and worked by the unfortunate victims of the revocation of the edict of Nantes, has, perhaps, in extraordinary fineness of texture, never been rivalled. Of late years the manufacture of really fine point-lace, rivalling the old Spanish and Italian in beauty, has been regarded as a lost art, and as such it would probably have continued to be held up to the present day, but for the enterprise and talent of Miss Jane Clarke, whose exertions have been crowned with the greatest success. The following is an extract from a communication with which that lady has kindly favoured us. She observes therein, that "the first idea I had of making such lace occurred to me in the year 1848, when a kind lady of Liverpool asked me to give her a design to have some lace made in Ireland, the people being in such great distress. I gave one, and when the lace was finished it was shown me, and I was so pleased with it that I gave orders for more. The work was so good that I felt assured still better things might be made. I then became acquainted with a Mrs. Bristow, a banker's lady of Belfast, who had charitably founded a school in that town, where the common muslin-work was made. I subsequently agreed to take charge of this school for her, and on the 1st of April, 1850, it merged into the establishment now known as Miss Clarke's lace-manufactory. On the occasion of the Exhibition I determined that real *point* should be made, and accordingly sent for the person who superintended my establishment, and having shown her the lace I wished imitated, instructed her as to how it was to be made. By diligently training the best hands, encouraging them with rewards, and constantly setting the best models before them, I am thankful to say I have arrived at the production of specimens which it has defied the discrimination of any but the finest connoisseurs to discern from the best old work. It is a truly satisfactory reflection to me to know in what comfort the revival of this art has placed many needlewomen, who were previously in great distress; and I am in great hopes that I may be enabled to maintain and ultimately increase my establishment."

Any comment upon this lady's valuable exertions must appear superfluous after her simple statement of facts; but it would be unfair to conclude this notice without alluding to the circumstance that, through her spirit and perseverance alone, several varieties of the richest and most novel garment-silks have been converted into staple manufactures in Spitalfields.



J. SLIEGH, DEL.

M. DIGBY WYATT, DIREXT.

F. BEDFORD, LITH.

SPECIMENS OF LACE BY MISS JANE CLARKE OF LONDON.

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PLATE CXLVII.

GROUP OF OBJECTS IN PORCELAIN,

BY COPELAND OF LONDON AND STOKE-UPON-TRENT.

In closing our brief notices of English pottery (*see* former articles, Plates LXXXI., LXXXIX., and XCVII.), we must confine our attention to the productions of the district known as the Staffordshire Potteries, some of the happiest specimens of the beauty attained at which we have now the pleasure to submit to the attention of our readers.

Comprising, as that district does, the towns and villages of Stoke, Hanley, Shelton, Burslem, Etruria, Fenton, Lane End, Delph, &c., it is only within three-quarters of a century that it has attained any considerable commercial importance. It is probable, that even in the Roman era fictile wares were there manufactured; the abundance of clay and coal rendering the locality especially suitable for this manufacture. The earliest authentic records of the trade point, however, to the reign of Elizabeth, when some peculiar wares were made in this district. Of these the principal were "butter-pots." The neighbourhood having established an extensive trade in butter, an immense number of narrow cylindrical vessels for conveying it to market were annually made of the common brick-clay of the neighbourhood. The workmanship of these articles was of the rudest kind, and they were glazed with pulverised lead ore dusted upon them, and fixed by firing. Each jar bore an official stamp as a voucher of its capacity. Dr. Plot, in his "History of Staffordshire" (1686), alludes to these wares, and states, that the local traffic in earthenware was then conducted only by workmen on a small scale, or by pedlers, who conveyed the articles in baskets on their backs, through the adjoining counties. Besides the butter-pot, a tig, or drinking cup, with three handles, and a larger tig, or parting cup, with two handles, were produced at the same period; and there are still extant some Staffordshire ale-jugs of the period of the Revolution, made of the native marl, but ornamented with devices in white pipe-clay. Mr. Allan Cunningham alludes to a famous Royal Oak dish, as a great and popular triumph of local art. This, he observes, was "an immense soup-plate with Charles sceptred and crowned amongst the branches, his wig floating in vast redundance, and every golden acorn as large as the king's head."

About the year 1690, the brothers Elers, of Nuremburg, established some important works at Burslem. It is said, that these skilful manufacturers discovered the art of employing salt instead of lead ore as a glaze. Other accounts state that this was the accidental discovery of a servant girl in some culinary operation; but certain it is, that the Messrs. Elers availed themselves of it with great success. Too anxious, however, to keep their economical process secret, they employed only the most illiterate and ignorant workmen; and it is recorded that the elder Astbury, who, afterwards became a successful manufacturer, assuming and maintaining the manners of an idiot, entered into the service of the Messrs. Elers and discovered their processes. Aided by the local prejudice against the latter as foreigners, Astbury succeeded, by the year 1720, in driving them from the neighbourhood, and his improved manufacture took the place of the Delft ware previously in use, and led to a competition with the Lambeth manufacturers (the successors of the Dutch), the latter being ultimately superseded in popular favour.

In the reigns of Anne and George I., the Staffordshire clay was mixed with sand and pipe-clay, and coloured with oxide of copper and manganese. This produced what is known as the agate ware; and other

improvements led to several varieties, called respectively Tortoiseshell ware, Crouch ware, and Queen's ware. The latter, a cream-coloured, hard-paste pottery, first introduced about the year 1756, is inseparably connected with the name of Wedgwood; for though not purely his own invention, the improvements which that great artist made in it secured for the material its royal name and fashionable patronage.

Premising that the discovery, by Astbury the younger, of the application of calcined flints to increase the whiteness and purity of earthenware, had immensely facilitated the progress of the manufacture, we may proceed to notice a few leading points in the career of JOSIAH WEDGWOOD. This distinguished benefactor to the arts of his country was born at Burslem in 1730, and worked as a thrower in his elder brother's pottery. He was afterwards a junior partner in two other local establishments, and soon displayed a talent for the production of ornamental wares. In 1759, he commenced business at Burslem on his own account; and evinced as much commercial spirit and enterprise as taste and liberality. It is impossible to enumerate the mechanical and commercial improvements introduced by Wedgwood; but in reference to his artistic productions, to which he himself attached more importance, we may record the fact that his catalogue, in the year 1777, comprised no less than 977 facsimiles of Greek and Etruscan cameos, 758 reproductions of similar works of Roman origin, and 366 intaglios. His copies of the Portland Vase, and his spirited competition for the purchase of the original, together with his employment of Flaxman and other distinguished artists, are matters of notoriety. The various terra-cotta wares of Wedgwood, his imitations of Etruscan vases, his jasper or onyx, his black basalt figures, resembling bronze, and his innumerable medallions of kings, emperors, and popes, are less known than their merits deserve. It is satisfactory to reflect that Wedgwood's labours were rewarded with an ample fortune, and that the close of his life, which terminated in 1795, in his mansion at Etruria, a village of his own formation, was accompanied by all the public honours and private regard to which he had so well entitled himself. Mr. Marryat ttruly observes that Wedgwood "gave to hard pottery the vivid colours and brilliant glaze which, till that period, had been seen only on porcelain;" and in the equally sober language of his epitaph, we may add, that "he converted a rude and inconsiderable manufacture into an elegant art, and an important branch of national commerce."

Among those by whom the porcelain manufacture has been developed in this country of late years the late Mr. Spode deserves to be pre-eminently noticed; and we are fortunate in being enabled to offer a few particulars concerning his works, and those of his successor, through the kindness of Mr. Thomas Battam, the artistic superintendent of Mr. Alderman Copeland's premises at Stoke-upon-Trent. This establishment was originally founded by Mr. Spode, nearly a century ago, and the first table service of printed ware was executed by that gentleman in the year 1784. Mr. Spode died in 1797, and was succeeded by his son, who had, from the year 1779, conducted with much ability a London branch of the establishment. The latter gentleman commenced the manufacture of porcelain in the year 1800; and by the introduction of feldspar he succeeded in producing a much finer body than any previously made. Dying in the year 1827, he was succeeded by his son, who entered into partnership with the father of Mr. Alderman Copeland. The last-mentioned Mr. Spode, the third in succession, survived his father but a few years; and the business was purchased of his executors in 1833 by its present worthy proprietor, who has greatly extended and improved the manufacture, and materially added to the comforts and convenience of his workmen. The establishment at Stoke covers nearly eleven acres, and employs nearly one thousand hands. Steam power is extensively used in grinding the clays, glazes and colours, working the lathes, and drying the goods. The bisque warehouses are 600 feet long by 30 feet wide. The earthenware manufactory is divided into squares,—as "the plate-makers' square," "the saucer-makers' square," &c. The "China Bank" is a large building, four stories high: the basement is stored with clay; the floor above is occupied by throwers, turners, handlers, finishers, &c.; above these are the flat and hollow-ware pressers, casters, &c.; and the top floor serves to contain the moulds used for the immense variety of objects of different forms which are constantly in course of execution. The consumption of clay at Mr. Copeland's works is about 4000 tons, and that of coal from 18,000 to 20,000 tons annually. Our present engraving furnishes some graceful specimens of his success in the production of porcelain; we have before (Plate LVIII.) adverted to his admirable works in statuary porcelain, a material specially his own; and we may add that he has recently produced some beautiful and richly ornamented porcelain slabs, several of them measuring no less than 62 by 32 inches.

H. MAVE DEL. M. DIGBY WYATT, DIREXT. F. BEDFORD LITH.

GROUP OF OBJECTS IN PORCELAIN.
BY COPELAND OF LONDON AND STOKE-UPON-TRENT.

LONDON. PRINTED AND PUBLISHED FEBY 15TH 1853, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CXLVIII.

AXMINSTER CARPET,

BY WATSON, BELL, AND CO. OF LONDON.

This beautiful specimen of manufacturing ingenuity is similar in its general character and mode of execution to the carpet which formed the subject of Plate CXXXII. It was designed by Mr. John Lawson, and executed by Messrs. Blackmore and Brothers, of Wilton, expressly for the Great Exhibition, at the cost and under the direction of Messrs. Watson, Bell, and Co., whose enterprise has largely contributed to the perfection attained in this important manufacture. We have already described the manner in which carpets of this kind are produced; and, as exhibiting the labour involved in the operation, we may observe that the present specimen contains sixty-four ties, or stitches, in the square inch. The productions of the firm were rewarded with a prize medal, as carpets "of first-rate quality, good design, and well executed;" and our readers will remember among the number the magnificent carpet executed by them, from the designs of Mr. L. Gruner, for Windsor Castle, which was not more remarkable for the excellence of its design and execution than for its dimensions; being fifty-six feet in length by thirty-eight feet in its greatest width.

The comparative novelty, the extent, and the variety of the carpet-manufacture of Great Britain, are alike remarkable. A century ago a carpet was an expensive luxury, whereas scarcely even the humblest dwellings of the land are now destitute of something of the kind. More than ten years ago it was computed that upwards of 4000 looms were employed in Great Britain in this manufacture; and, including the looms employed in working out some new processes, which we shall have to advert to, it is estimated that there has been an increase to the extent of thirty per cent on the whole number within the last seven years. The value of the carpets annually produced is about 1,000,000*l.* sterling; and, as the jurors of the Great Exhibition observe, "There is scarcely any branch of our manufactures that wears a more promising aspect for the future." On the different methods of weaving employed we shall offer a few remarks in the present article.

The nomenclature of British carpets is, in its present application, peculiarly unfortunate. By far the greatest portion of our so-called "Brussels" carpets are made at Kidderminster; those termed "Kidderminster" are made at Glasgow, Kilmarnock, Halifax, and other northern towns. The manufacture has entirely ceased at Axminster, and the carpets bearing the name of that town are in fact made at Wilton and in London.

The wool intended for carpet-weaving is combed or carded, according to the kind of fabric for which it is intended; the long-combed wool being applied to Brussels and the finer kinds of carpets, whilst the carded wool, having a shorter fibre, is used for the Kidderminster carpetting. The worsted yarn is spun by the throstle and the mule spinning-machines, and dyed before being woven by the loom. When it is remembered that the various carpets present exceedingly different appearances, some displaying the same pattern and the same material on each side, the colours alone being reversed; others having a hard surface of hemp or flax on one side, and a soft worsted surface on the other; others, again, having a short pile or nap resembling velvet; whilst another class have the richness and softness described in our former article, it must be obvious that numerous processes are required in their formation. Thus in the Kidderminster, or, more properly, the Scotch carpets, the warp is worsted, the weft is of wool, and the fabric "is so constructed as to constitute a double cloth, having two sets of warp threads and two of weft, each warp

being intersected by both the wefts. It is, in fact, like two pieces of worsted cloth united together surface to surface, and it might be possible to separate one from the other without destroying the web of either."* The looms are worked by hand, the warp being arranged horizontally in two tiers (or three for what is termed "three-fly"), and the threads are raised in the necessary order for the passage of the weft, by means of the Jacquard apparatus. The weaver is provided with as many shuttles as there are colours in the pattern, each carrying a differently-coloured yarn; and not only is much ingenuity displayed in the minor arrangements of the loom, but great dexterity is required in the workman.

A Brussels carpet consists of a textile fabric entirely formed of linen, to which a worsted surface is superadded. At the back of the loom are five frames, each containing two hundred and sixty bobbins of the same colour; the number of colours in English Brussels carpets being usually five. In France, six or seven frames are sometimes employed. The yarns from these bobbins unite to form a warp of twenty-seven inches wide; Kidderminster, on the contrary, being woven of the width of about a yard. The warp threads are raised by the Jacquard, and the weaver first throws a shoot of linen thread, and then performs the characteristic feature in the process, by introducing, under some of the warps, and over all the rest, a brass wire, rather longer than the width of the piece. These operations are alternately repeated, and thus the pattern is formed, the groundwork concealed, and a kind of loop produced, which, on the subsequent removal of the wire, imparts that round, full, and soft appearance which is so remarkable in Brussels carpets. At a late period of the Exhibition, Mr. Bigelow, of the United States, forwarded some Brussels carpets, woven, with the greatest success, by a power-loom invented and patented by him; and the Jurors award to that gentleman the highest praise for the skill with which he has accomplished a task which had long and justly been regarded as one of extreme practical difficulty. Mr. Bigelow's looms are in active operation in America. Improvements somewhat similar to this were brought under the notice of the Jury by Mr. Fawcett, and Messrs. Humphries and Sons, of Kidderminster. The manufacture of Brussels carpets was first introduced at Kidderminster about ninety years ago, by workmen from Tournay, in Belgium.

The third principal variety of English carpets is termed Wilton, or velvet pile. The process is the same as in the Brussels; but the wires are grooved, and, before they are withdrawn, the loop formed by them is cut through with a sharp instrument: thus producing a soft nap or pile. Unlike the Axminster carpets before described, those to which we have now referred are all made in widths, which require joining to form a complete covering for a floor.

Within the last twenty years, three new kinds of carpet have been invented and brought into extensive use. The first is Whytock's patent tapestry; which employs eight hundred looms, and is increasing in public estimation. In this an unlimited number of shades or colours can be introduced, and most elaborate designs can be executed. Its appearance is similar to Brussels, but the manufacture is more simple; "each thread being coloured separately, at spaces, with the various shades, as they follow each other in the design. The process by which this is accomplished is beautifully simple and ingenious, but requires much care in placing and arranging the threads, and putting them on the beam."† The next is the "Patent Axminster" of Messrs. Templeton and Co. of Glasgow: the object of which is to give the beautiful appearance of Axminster or Tournay at less cost. The last is a description of carpet having the same appearance as Brussels, or tapestry, which is woven plain by steam power, and afterwards printed by the same agency. This is extensively manufactured at Rochdale, by Messrs. Bright and Co., under Sevier's patent; and printed near Macclesfield, by Messrs. Burch and Co., by a machine invented and patented by Mr. Burch. Another novelty consists of a patent wool mosaic, the surface or pile of which is peculiarly close; made, probably, in the manner described by Mr. Vignolles at the meeting of the British Association in 1842: namely, by taking horizontal sections through a number of coloured threads arranged vertically so as to form a pattern—the section being fixed to a cloth covered with a cement of India rubber, or some similar material.

Besides these varieties of British carpets, a somewhat considerable trade has lately been carried on in fabrics imported from Masulipatam and other parts of British India: these productions being at present imported exclusively by Messrs. Watson, Bell, and Co. They are made of a cotton and linen foundation, to which tufts of strong wool are tied, in the same manner as in other Oriental carpets. The articles referred to are remarkable for harmony of colour and great durability, and have been lately much improved through the agency of the above-mentioned firm.

* Dodd's "British Manufactures," Carpet-weaving, p. 102.

† "Reports of the Juries on the Great Exhibition," p. 473.

M. DIGBY WYATT DIREXT

T. BEDFORD DEL ET LITH.

AXMINSTER CARPET BY WATSON BELL & Co OF LONDON

LONDON. PRINTED AND PUBLISHED FEBY 15TH 1853 BY DAY & SON LITHOGRAPHERS TO THE QUEEN

PLATE CXLIX.

INDIAN ILLUMINATED MANUSCRIPTS.

We have already, in Plate LXVIII., adverted to the beauty and skill displayed in the illuminated manuscripts of the Hindoos, both in ancient and modern times. We need scarcely, therefore, call attention to the peculiarities of the example now engraved, but shall proceed instead with the historical sketch of Indian commerce commenced in our notice of Plate CXL.

We there adverted to the admirable account given by Arrian of the geography, the manufactures, and the trade of India; and, without dwelling upon the less trustworthy statements of Ptolemy, we may observe that the discovery of the monsoons necessarily facilitated the direct communication by sea between India and Egypt, and increased the trade which before existed. But on the decline of commercial enterprise among the Romans, Aduli in Abyssinia, and soon afterwards Siraf in the Persian Gulf, succeeded Berenice and Myos Hormos as the two great dépôts of the Indian trade. The merchants of the former ports carried on an extensive traffic along the western coast of India, and as far south as Ceylon; which was then the eastern limit of their voyages. Indeed, during the fourth, fifth, and sixth centuries, Ceylon was the great entrepôt of Indian commerce; enjoying as it did an active and extensive intercourse with Bengal. Ammianus Marcellinus, a writer of the fourth century, mentions, amongst the products exported from thence, the coarse native silk of India, which he states was so common and low-priced that even the poorer classes of the people of Rome could afford to purchase it. Ceylon is particularly mentioned by Procopius, about the same time, as the place where the natives of different parts of India assembled for conducting the trade with Europe. The same author especially adverts to the silken dresses, long before extolled by the Greeks, as "Indian robes."

In the reign of Justinian (527—565 A.D.) the native silk of Eastern India was subjected to a duty; to meet which the merchants raised its price. The emperor was in consequence led to fix a maximum value upon it, which in its turn ruined the trade. Cosmas Indicopleustes made several voyages to India in the same reign, and his work, entitled "Christian Topography," contains many curious particulars, and corroborates the views of Heeren on the importance of Ceylon; which was then frequented by vessels from China, Persia, Arabia, and Ethiopia. A peculiar interest attaches to this period from the introduction into Europe of the eggs of the silkworm, which, carefully preserved in the hollow joint of a bamboo, were brought (as we have mentioned in other parts of this work) from China to Constantinople by two Nestorian monks, who taught the subjects of Justinian the art of manufacturing silk.

In the seventh century the Mahomedan dominion was established by the Caliph Omar, on the banks of the Euphrates; the city of Bassora being founded by him in the year 636. Its advantageous situation soon conferred upon it great importance in the transmission of Oriental productions to Europe; and throughout the Caliphate there was a constant intercourse between India and Bassora, and thence, through Mesopotamia, to the shores of the Mediterranean. Alexandria, however, still participated in the Eastern trade; the ancient communication overland, by means of caravans passing through Central Asia, was not discontinued; and the different outlets thus opened for Indian commerce gradually interfered with the importance of Ceylon. Moreover, the merchants of Bassora, who were chiefly Arabs and Jews, extended their voyages to Eastern India and China; and, by degrees, the disciples of Mahomet settled in different parts of India, preparing the way for the subsequent invasion of the country, and introducing with them, among other arts, that of embroidery, which is of Western origin, and the practice of which is still, for the most part,

confined to the Mahomedan races in Hindostan. There is a curious work, written in the ninth century by two Mahomedan travellers, and translated by the Abbé Renadout, entitled "Accounts of India and China;" but, without dwelling in detail on the marvellous narrations of these and other old travellers (which might, however, furnish an amusing chapter), we may observe that they again point out the excellence of the Indian muslins, and describe the trade in ivory, gold, silver, drugs, and other well-known products of the East.

The Mahomedan conquest of north-western India, towards the end of the tenth century, the extension of their dominion to Bengal at the beginning of the thirteenth, and the consequently increased communication with Arabia, in pilgrimages to Mecca, &c., are events belonging rather to the social than the commercial history of India, and we only advert to them to indicate the course of its external trade. Constantinople continued to be the great mart for Chinese and Indian productions, the commerce remaining in the undisputed possession of the Mahomedans.

When, however, Venice had asserted its independence, all the energies of its citizens were applied to commerce, and they soon became formidable rivals to the Greek merchants. Trading to the harbours of Egypt and Syria, their zealous efforts were gradually sanctioned by the Caliphs; and, at length, in 1204, the Venetians led the fourth crusade, and completely overthrew the Byzantine empire, securing for themselves one third of the Greek territories, and ultimately an absolute monopoly of the Eastern trade. When, by a subsequent rebellion of the Greeks, the Genoese obtained the command of the trade by Constantinople, the Venetians resorted to the ancient route by Alexandria; but in 1453 the Genoese were expelled by Mahmoud II., and Venice was enabled to regulate at pleasure the terms on which Europe might obtain the necessaries and luxuries of the East. The quaint Venetian traveller, Marco Polo, furnishes us with many amusing and interesting particulars of Bengal and other parts of India in the latter part of the thirteenth century; but into these our limits preclude us from entering.

The supremacy of Venice was, however, destined to receive a blow as fatal as unexpected, by the discovery, in the year 1498, of the passage to India by the Cape of Good Hope; which event conferred lasting honour on the Portuguese admiral, Vasco de Gama, and corresponding wealth and influence upon his country. The Portuguese were the first Europeans who acquired any dominion in Hindostan; and, supported by the authority of the Pope, they contrived, for nearly a century, to monopolise the trade by the newly-discovered route. Great was the consternation of the Mahomedans and the Venetians at this successful competition, but their efforts to oppose it were completely unavailing.

Among the travellers of the sixteenth century who have left us their observations on India, we may name Lewis Vertomannus, a gentleman of Rome, who visited the East in 1503. He states that fifty ships were then despatched annually from Bengal, and he also corroborates the fact stated before by Marco Polo, that many Nestorian Christians had settled in India, some of whom had, in the time of Vertomannus, become merchants. The textile fabrics of Bengal are eulogized by Barbosa about the year 1516, and nearly half a century later, in the "Mohit," a Turkish nautical journal. Ralph Fitch, in 1586, was the first English traveller who visited eastern India; and Lindschoten, in 1599, may complete the list of travellers in this century.

The Portuguese were long engaged in warfare with the Mahomedan rulers of Bengal, and did not succeed in establishing agencies in that province till the end of the sixteenth century. In the meantime England, gradually recovering from the terror inspired by the Papal authority, and from the subsequent effects of the civil war, began to compete with the Portuguese for the trade with India. Captain Stevens, in 1582, was the first Englishman who sailed to India by the Cape of Good Hope; he was soon followed by Sir Francis Drake; and the greatest interest was excited by the voyage of Cavendish in 1586, and by the contemporaneous capture of several Portuguese ships laden with Oriental produce. In 1593 an armament, fitted out for the East Indies by Sir Walter Raleigh, and commanded by Sir John Burroughs, brought into Dartmouth a Portuguese ship of 1600 tons and 700 men, with a cargo of gold, spices, calico, pearls, drugs, porcelain, ivory, &c.; and the intense interest excited by these and similar events led to the formation of the first British East India Company, which, in the year 1600, was established under the name of "The Governor and Company of Merchants of London, trading into the East Indies."

The effects of this great establishment upon the commerce of India, its early competition with the Portuguese and the Dutch, and some other points illustrative of our general subject, may be noticed in a future article.

SIEGH, DEL. ET LITH.

M. DIGBY WYATT, DIREXT.

ENRICHMENTS FROM INDIAN ILLUMINATED MANUSCRIPTS

LONDON PRINTED AND PUBLISHED MARCH 1858 BY DAY & SON LITHOGRAPHERS TO THE QUEEN.

PLATE CL.

GROUP OF FURNITURE, BY SNELL OF LONDON.

The beautifully-executed looking-glass, which forms the principal subject of the present Plate, was made by Mr. Snell for James Morrison, Esq., from designs by the late firm of Wyatt and Brandon, and forms one of a series of important articles in a similar style carried out by Mr. Snell for the above-named gentleman. The fact that we have already given such particulars as we had been enabled to gather concerning Mr. Snell's establishment, affords us now an opportunity of completing our historical sketch of English furniture, which, in our last notice, we brought down to the period of the English revival. Of this style the existing specimens are very numerous, consisting of sideboards, chairs, bedsteads, &c., the shallow surface-ornaments, unmeaning scrolls, and rudely-executed caryatides of which proclaim them to be of the debased era of Elizabeth and James I. It is true that many of these have been imported from Flanders, and that the antiquity of a still larger number is more than doubtful; but, after allowing for these deductions, there is still a great quantity of the furniture of the latter part of the sixteenth and the beginning of the seventeenth century in existence. In many parts of the country there are some houses entirely filled with it, and many of the rooms in the mansions of the nobility have remained *in statu quo* since Elizabeth or her successor visited the place in their numerous progresses.

The chairs of the Elizabethan period are exceedingly high-backed, the seat and other parts often covered with rich embroidery, or cloth of gold and silver; the legs and rails are generally turned, and the flat spaces ornamented with shallow surface-carving. Occasionally we find the old camp-stool type in use, but with carved legs and stuffed arms and back. The tables were constructed and ornamented very much in the same manner as the chairs, the legs being turned into exaggerated imitations of vases. Many of the old halls attached to the colleges of Oxford and Cambridge are fitted with elaborately-carved tables and benches of this period. The old arrangement of a large board and trestles still continued in use where a number of guests were to be accommodated; and Turkey carpets were employed to cover both them and the "court-cupboard," as the temporary buffets of the fifteenth century were called; the common cupboard or sideboard was made of oak, and consisted of a large closet below, the upper part containing two smaller ones, with an open space in front, which was covered by the corner supported on two or more pillars of fanciful forms. These closets served to contain the service of plate or pewter, which was displayed during the dinner or supper, on a rich cloth placed on the open space or shelf in front.

Shakespeare makes frequent allusions to the custom of covering the floors with rushes, and we learn from other authorities that dry bulrushes were much valued for that purpose. Occasionally we find that these were allowed to remain unchanged for a considerable time, to the obvious injury of the health of the inmates of the apartments. The walls were hung with tapestry, for the most part imported, or covered with stories in "waterwork,"—a rude species of fresco to which we have already alluded.

Pictures began to be used to ornament some of the best rooms; but they were considered so precious, that they were commonly kept covered with a curtain. As to the bedrooms, we find, that if the owner of the house was unmarried, there were two beds in the principal rooms; the standing-bed for the master, and the truckle-bed, which in the daytime was rolled under the larger one, for the servant. The celebrated bed of Ware is a fine example of the four-post or standing-bed. A good and unbroken series of state-beds, from the time of Elizabeth to that of George III., might no doubt be found in the various seats of the nobility. They are generally very high, and the canopy surmounted with plumes of feathers, their decoration consisting

in the richness of the curtains and quilt, as in the bed of James I. now at Knowle. The bedroom was further provided with benches, not unlike our sofas; chairs and dressing-table, covered with embroidery, and a polished steel mirror, in a black velvet frame with a curtain before it, completed the furniture. The clothes were still kept in the great chests, although we are assured that Anne of Denmark was in possession of a chest of drawers; a substitute for which was found in the wardrobe, a high erection filled with shelves, and often with no other means of security than a curtain before it to keep out the dust.

A better style prevails in the furniture of Charles I. Although the forms of nearly all the articles remain the same as in the preceding reigns, the ornaments are in better taste, and we take our leave of the hideous knobs and scrolls, which are replaced by designs borrowed from the school of Rubens. Small balusters are frequently employed in the backs of chairs, which are open, surmounted by gold tassels. We do not hear much of the magnificence of the furniture of Charles I., whose ambition was rather to fill his palaces with works of art, and we find that he possessed one of the finest picture-galleries of the age; besides his collection of medals, coins, and sculpture, which consisted principally of good copies from the antique. In the Parliamentary inventory of his effects there are mentioned, however, several suits of tapestry of great value: thus, the set of hangings representing the story of Abraham was considered to be worth 8260*l.*; and another, with the history of Julius Cæsar, is entered at 5019*l.* There is also a description of a cloth of estate, of purple velvet embroidered with gold, containing the arms of England, and ornamented with a considerable number of pearls and jewels. The same fashion continued during the period of the Commonwealth, except that the tapestry was superseded by the gilt and stamped leather, which had been introduced into this country early in the seventeenth century.

The reigns of Charles II. and James II. present us with several novelties, principally imported from France,—marquetry, for instance; so called from M. Marquet, who claimed the invention, although the art had been practised in Italy and Germany for at least two centuries previously. Much of the furniture of the higher classes was gilt. At Granton House, in Scotland, a gilt sofa-stool and several other articles of furniture, which are said to have belonged to the unfortunate Duke of Monmouth, are still preserved. Occasionally valuable materials were employed; and Mr. Shaw has engraved a small table looking-glass and candelabra of silver, which are still preserved at Knowle, in Kent. In the ordinary furniture, the principal feature is the use of twisted legs and rails to the chairs and tables; the covers of the latter were cut up at the angles, and connected by frogs of gold lace. We also meet with cabinets having glass-fronts, for the purpose of displaying choice specimens of China, which began to be imported in considerable quantities. We no longer hear of the floors being strewed with rushes, a fashion which probably disappeared about the time of the Commonwealth; the substitute appears to have been matting, with which all the rooms not devoted to state purposes were laid.

The rococo style, which commenced about the latter end of the reign of Louis XIV., and which attained its height in that of his successor, began to pervade our furniture in the early part of the eighteenth century; and although the scroll-and-shell work is no less unmeaning and ugly than that of the time of Elizabeth, it is often arranged in flowing lines, and frequently receives the aid of marquetry and buhl, so that the general effect is sometimes rather agreeable. The principal novelties are fauteuils, girandoles of cut-glass, and the screens and cabinets of japanned work; these latter were at first imported, but very soon our workmen learnt to imitate them with great success. Mahogany had been introduced by Dr. Gibbons (a physician in the latter end of the seventeenth century), and shortly after we find most of the best furniture made of that material. During the reigns of the two first Georges the furniture became plain and meagre, and claims but little attention as regards art.

The French Revolution introduced severe classical taste, and the furniture followed the prevailing fashion. The productions, however, of the school of David were certainly very different from the few classic models of chairs, &c., which have come down to us; and when imitated as they were by the English upholsterers, even under the influence of Mr. Hope's graceful examples, became still more unlike anything of the classic ages. Since that time we have had no style at all, and if any carving is added to our furniture, it is usually in the debased taste of Louis XV. The velvet and cloth-of-gold coverings of the middle ages have given way to the less durable silk damask or chintz. An improvement is certainly visible in the style of our furniture of recent manufacture, of which the specimens by Messrs. Snell, as well as some others, contributed to the Great Exhibition, present hopeful indications.

F. SMALLFIELD, DELT. M. DIGBY WYATT DIREXT. F. BEDFORD LITH.

GROUP OF FURNITURE BY SNELL OF LONDON.

LONDON, PRINTED AND PUBLISHED MARCH 1ST 1853 BY DAY & SON LITHOGRAPHERS TO THE QUEEN.

PLATE CLI.

OBJECTS ENRICHED WITH DAMASCENE WORK,

BY J. FALLOISE OF LIEGE.

The present Plate exhibits some very excellent specimens of the now almost extinct art of damascening, and we congratulute the manufacturer on the successful revival of the art, as the process is one which requires a rather unusual amount of artistic and manipulative experience. It is only a few years since this art has been revived in France, Spain, and Belgium, each of which countries contributed specimens to the Great Exhibition, and those now engraved were certainly among the more successful.

There are few arts which can claim a much earlier origin than that of affixing ornaments of gold and silver upon the more common and baser metals, and the various processes required in gilding denote a far greater progression in the useful arts than was required to rivet thin engraved strips of gold upon a bronze ground; a method of ornamentation which we observe in the earlier works of the Etruscans, and which is also described by the more ancient Greek writers. Probably the most interesting specimens of this description are the remains of the votive car found at Perugia, and of which portions are preserved in the British Museum and the Cabinet de Médailles at Paris.

Damascening proper has been executed in two different modes. The first of which consisted in sinking the ground required for the ornament, and filling up the space with a piece of a different metal, which was effectually prevented from becoming detached by undercutting the sides of the incision. It is in this manner that the majority of the works of the Romans, Irish, and Arabians, are found to have been executed. The second process was probably a much later invention, and was principally employed by the French and Italian artists of the sixteenth century. In this the surface of the iron was roughened by means of a fine file, and the ornaments were fixed by pressure: the whole was afterwards burnished, by which means that part of the ground not covered was reduced to its original polish. Varieties of these two processes obtained at different places and at different periods; thus, for instance, the Arabs sometimes affixed the gold by means of puncturing the surface to be covered into little sharp points, by which the ornaments, when once fixed by pressure, were effectually retained in their places: but nearly every specimen may be considered as merely a variety of one of the above-named processes, the knowledge of the first of which appears to have been diffused almost universally.

The classic ages have left us very numerous works of art in metal, but, unfortunately, few of them have been found with any damascened ornaments. It is true that the "emblemata crusta" used in decorating the rich armour and *vessaille* of the emperors and patricians were frequently executed in a different metal from the articles of which they formed the chief ornaments; but as they were not permanently fixed, they must be considered rather in the light of gems or enamels than as specimens of damascening, which may be strictly defined to be the art of fixing ornaments of one metal upon another by pressure, and without the aid of solder.

The statue said to have been found in Suffolk, in 1799, and a few more unimportant articles in the Gem Room of the British Museum, are almost the only examples of the proficiency of the ancients in this

art which are accessible in this country. Of those on the Continent, we may mention the famous table of Isis, and one or two other examples in the Italian and Parisian Museums.

In the East the practice of decorating personal arms, both offensive and defensive, with gold and silver, has obtained uninterruptedly from the earliest periods down to the present time. The specimens of Sikh armour captured in the late Indian campaigns would not disgrace those times when the subjects of the Latin kingdom of Jerusalem were accustomed to resort to Damascus to purchase the ornamented weapons, which were manufactured in great numbers throughout the whole country of Mesopotamia, and brought to that city as the great emporium for their sale.

But arms and armour were not the only objects which occupied the attention of the Arabian workman, for we find that a considerable trade was carried on in vessels of bronze ornamented with intersecting threads, foliage, inscriptions, &c. in gold and silver; and the artist sometimes so far forgot the injunctions of his religion as to attempt imitations of hunting-scenes, &c., somewhat rude in design, it is true, but often exhibiting no small amount of spirited drawing. Many of these vases have found their way to Europe, and are to be met with in the various museums and collections of amateurs; more particularly in France in those of the Duke de Blacas and Prince Loltykoff, and in England in those of Edward Falkener, Esq., and Octavius Morgan, Esq. Some of them are exceedingly valuable in an historical point of view, as presenting us with inscriptions, from which we learn the name of the artist and place of fabrication, and not unfrequently the date. The most famous of these vases is that now preserved in the Louvre, and said to have been brought by St. Louis from the Holy Land, on which is a legend informing us that it was made by "Mohammed son of Zin-Eddin, to whom may God show mercy."

It is remarkable, that although we find that the Crusaders bought Oriental arms at Damascus, and sometimes brought the more elaborate articles to Europe, as in the case of the "Vase de Vincennes," no attempts should have been made to imitate the manufacture until the middle of the fifteenth century, when we find it in use in Italy for decorating the plate armour which was then adopted in that country. It is most probable that the art was first imported by the great trading cities, such as Venice, Pisa, and Genoa, from the East, and was afterwards taken up as a more permanent decoration for armour than parcel-gilding by the artists of Milan, which city was then to Europe what Damascus had been to the East, viz. the great emporium for the best arms and armour. So exclusively, indeed, was the art in the first instance employed upon weapons, that to the very last the Italian writers designate it under the title of "lavoro all' azzimina."

At the beginning of the sixteenth century the art began to be exercised out of Italy, and it is by no means improbable that it was taught to the workmen of France and Spain by those travelling artists whom the vanity of the kings of those countries attached to their courts. Probably the finest existing specimen of damascening is the armour of Francis I., now in the Cabinet de Médailles at Paris. Both this and the shield in her Majesty's possession at Windsor have been attributed to the famous Cellini; but on comparing them with any of his known works, the drawing of the figures indicates rather a French artist than that broad style which Cellini had acquired from his study of the works of Michael Angelo.

From that time down to the middle of the seventeenth century a great number of arms were decorated with damascening, of which the Louvre, the Cabinet de Médailles, and the Musée d'Artillerie, contain numerous fine specimens; and the names of Michael Agnolo, Negroli, the Piccinini, and Cursinet, may be mentioned as excelling in Damascene work, as well as in the art of the armourer generally.

In our own country the art does not appear to have been much exercised, parcel-gilding, engraving, blacking, and russetting, being well received as substitutes; and the few specimens we possess were probably imported or captured in our foreign wars, as in the case of the splendid suits of armour brought to England by the Earl of Pembroke after the battle of St. Quintin.

F. BEDFORD, LITH.

M. DIGBY WYATT, DIREX.r

GROUP OF OBJECTS ENRICHED WITH DAMASCENING BY FALLOISE OF LIEGE.

LONDON. PRINTED AND PUBLISHED MARCH 1st 1853. BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CLII.

GROUP OF INDIAN OBJECTS, PRINCIPALLY ENAMELLED.

It will be in the recollection of our readers that a sum of 5000*l.* was allotted by Her Majesty's Government for the purchase of fine specimens of art and manufacture from the Great Exhibition, as the nucleus of a Museum under the newly-formed Department of Practical Art, for the benefit of the Schools of Design in association with that department, and for the instruction and gratification of the public at large. The admirable collection which has been thus formed has been thrown freely open, both for inspection and study; and that its attraction and interest have been properly appreciated is amply proved by the numbers who have visited it.

The practical utility of the objects contributed to that Museum from the Indian department of the Exhibition has been greatly aided by an admirable descriptive and critical catalogue of the different objects, prepared by Mr. Owen Jones; and feeling, as we do, that the characteristic merits of such productions cannot be too strongly enforced, we adopt the following judicious comments by that gentleman, in further illustration of the principles we have before endeavoured to exemplify:—"In the Indian collection," Mr. Jones observes, "we find no struggle after an effect; every ornament arises quietly and naturally from the object decorated, inspired by some true feeling, or embellishing some real want. The same guiding principle, the same evidence of thought and feeling in the artist, is everywhere present; in the embroidered and woven garment tissues, as in the humblest earthen vase. There are here no carpets worked with flowers whereon the feet would fear to tread; no furniture the hand would fear to grasp; no superfluous and useless ornament, which a caprice has added, and which an accident might remove. The patterns of their shawls, garments, and carpets, are harmonious and effective, from the proper distribution of form and colour; and do not require to be heightened in effect by strong and positive oppositions. We have here no artificial shadows, no highly-wrought imitations of natural flowers, with their light and shade, struggling to stand out from the surfaces on which they are worked; but conventional representations founded upon them, sufficiently suggestive to convey the intended image to the mind, without destroying the unity of the object they are employed to decorate. With them, the construction is decorated; decoration is never, as with us, purposely constructed. With them, beauty of form is produced by lines growing out one from the other in gradual undulations: there are no excrescences; nothing could be removed and leave the design equally good or better. Their general forms are first cared for; these are subdivided and ornamented by general lines; the interstices are then filled in with ornament, which is again subdivided, and enriched, for closer inspection. In their conventional foliage, in all cases, we find the forms flowing out from a parent stem, so as to cover the space to be filled with the most exquisite skill: we are never offended, as in European works, by the random introduction of ornament which cannot be accounted for; every flower, however distant, can be traced to its branch and root."

The same discriminating writer adds, that "in the management of colour, the Indians, in common with most Eastern nations, are very perfect; we see here the most brilliant colours, harmonised as by a natural instinct: it is difficult to find a discord; the relative values of the colours of ground and surfaces are most admirably felt. Their object appears to be, in their woven fabrics especially, that each object should be softly, not harshly, defined; that coloured objects viewed at a distance should present a neutralised bloom; that each step nearer should exhibit fresh beauties; and a closer inspection the means whereby these effects are produced."

From the peculiar facilities possessed by the Committee who selected the different objects for the Museum of Ornamental Art, they were enabled to obtain them on very favourable terms.—Of the 4470*l.* actually expended, a sum of 844*l.* 12*s.* was devoted to the purchase of enamels; including the magnificent work by Mr. Morel (engraved in Plate CVII.), for which 210*l.* were given; three exquisite specimens from Sèvres; and the following, amongst other Indian objects:—A dagger with enamelled sheath and handle from Scinde, purchased for 20*l.*; thulwar, or sword, with enamelled hilt, point and scabbard, from Rajpootana, 52*l.* 10*s.*; shield of buffalo hide, with enamelled bosses, from the same district, 20*l.*; two bungarees, or bracelets, enamelled and set with diamonds and rubies, also from Rajpootana, 26*l.* and 18*l.*; silver-gilt and enamelled bracelet, from Kangra, 6*l.* 6*s.*; silver-gilt and enamelled anklet from the same place, 4*l.* 12*s.*; silver enamelled cup and cover, from Lahore, 7*l.*; silver-gilt drinking cup from Kangra, 4*l.* 4*s.*; together with a rose-water bottle and a spice-box from Dholepore; the former purchased for 10*l.* and the latter for 31*l.**

With regard to the processes employed in the enamels of India, it may be observed that they differ in no material degree from the ordinary practice of other countries, so far as the white paste is concerned. The following is Dr. Royle's† interesting statement of the details:—"Uneducated natives," he observes, "may be found in almost every Indian bazaar, who can make alloys, colour glass, and work enamels, by methods which are unknown in Europe. The workmen of Behar are stated to make two enamels, one yellow and the other green; and their process is said to be as follows:—Five parts of lead are melted in a shallow crucible, and to these is added one part of tin, and the alloy is calcined for four or five hours. It is then heated to redness in the crucible of the glass furnace. One part of white quartz is next added, and the mass stirred about for three hours. It is then taken out with a ladle, poured out on a smooth stone or iron, and cooled in water. They then take one part of their palest green glass, and add a fourth part of the other materials, to make the yellow enamel. The green enamel is made in the same manner; and to the melted glass is added not only the prepared lead and tin, but a small portion of the black oxide of copper. In Mysore they make a bright yellow enamel, by first calcining five parts of lead and one of tin, then adding one part of zinc, calcined in a separate crucible. When these begin to adhere, they are powdered in a mortar. When the maker of glass rings is at work, he melts some of this powder; and, while the ring is hot, he applies some of the powder with an iron rod to the surface of the glass."

As an addition to the scanty notices by travellers of the manipulative processes employed in India in executing objects in the precious metals, we may here be permitted to quote the remarks of Mrs. Postans on the goldsmiths' work of Cutch:‡—"The favourite native ornaments are necklaces formed of small plates of richly-chased gold, strung on a small wire or gold thread; ear-rings, fastened by a hook which passes through the bore of the ear, securing them without a clasp; and a great variety of bangles, or bracelets, usually made of an enormous weight, and adorned with curiously-embossed figures of elephants, tigers, snakes, and monkeys. In common with the armourers, the goldsmiths work gold ornaments on a pure dead-silver ground, with great taste and delicacy of design. This description of work is principally in favour for sherbet-bowls and rose-water sprinklers, the elegant forms of which are copied from those made in opal and china, which are brought from Turkey as articles of merchandise with Persia. Few models of ancient art can display forms more elegant than the Hindoos choose for their common water-vessels, for their designs for embroidery, for the garlands and wreaths which everywhere adorn their temples, tombs, and palaces. The workmen have few tools, and those they have are of the most primitive description. Thus, in embossing a cup or snuff-box with a pattern of delicate flowers, with minute leaves, tendrils, and stems, the workman forms a large lump of lac round a wooden handle into the form desired; and, having moulded the silver on it, punches it out in the required pattern by the means of a little rough awl, apparently more calculated to mar than to perfect the tasteful elegance of the design."

* Some of these objects are engraved in the present work. The Museum also contains specimens of Sèvres porcelain; the best works of Vechte; of Froment Meurice, Rudolphi, and Marrel of Paris; of Falloise of Liege; of our own Copeland, Minton, Hardman, Crace, Elkington, Watson, Bell and Co., Gough, Skidmore, &c.; jade-stone carvings and lacquer-work from India and China; and other works, of which we have given illustrations, and which are of the greatest value to the student.

† "Lecture on the Arts and Manufactures of India."

‡ "Cutch, or Random Sketches of Western India," p. 176.

M. DIGBY WYATT, DIREXT

F. BEDFORD LITH.

GROUP OF INDIAN OBJECTS PRINCIPALLY ENAMELLED.

LONDON, PRINTED AND PUBLISHED MARCH 1ST 1853, BY DAY & SON LITHOGRAPHERS TO THE QUEEN.

PLATE CLIII.

SPECIMENS OF SILVERSMITHS' WORK,

BY MARREL, FRÈRES, OF PARIS.

Little more than thirty years ago the heads of the above now wealthy and important firm were but simple workmen, the one a jeweller, the other a silver-chaser: in the year 1822 they started in business together, and by their talent and energy soon succeeded in acquiring reputation. In the French Exposition of 1839 they found an opportunity of exhibiting to the world those powers of production which had already obtained for them the esteem of some of the most distinguished connoisseurs in metal-work. They were rewarded on that occasion not only with a gold medal, but with many substantial commissions given to them by various members of the Royal Family. On the occasion of the Great Exhibition of 1851, they came forward under a not less successful aspect; since not only were they honoured by the award of a Council medal, but the Committee appointed to select objects to be purchased for the Museum of Practical Art added no less than five important objects to that collection from among the most graceful specimens exhibited by MM. Marrel. As a recognition of their distinguished merits, on their return to Paris from England, the President of the French Republic awarded a decoration of the Legion of Honour to the senior partner in the firm.

The present subject affords an opportunity of briefly completing our historical sketch of the jeweller's art in France, which, in our article on Plate CXIII., we brought down to the period of the Renaissance. Although that style began to make its appearance in the works of the French jewellers in the reign of Louis XII., when the extensive patronage of the powerful Cardinal Amboise gave considerable impetus to the art, it was under Francis I., who invited to his court the great master of the Renaissance, Cellini, that the jeweller's art reached its highest perfection. Of the vast quantities of works in the precious metals executed at this period, a very large amount is supposed to have been melted down to pay the ransom of Francis I., and much more was, no doubt, refashioned in after times; but the Museum of the Louvre still contains a fine collection of jewelled and enamelled cups and other objects, which sufficiently attest the skill and taste of the goldsmiths and jewellers of this age. One of the richest jewels which the fashion of the period introduced, and which continued to be used for a considerable time, was the "enseigne," a species of medal generally worn in the hats of the nobles and in the head-dress of the ladies. The custom of giving presents on all important occasions furnished constant employment to the jewellers of Paris and in the vicinity of the court, even during the troubled period of the wars of the Reformation. The restoration of peace at the accession of Henri IV. caused an increased demand for the goldsmiths' productions; and subsequently the magnificence of the Cardinals Richelieu and Mazarin paved the way for the siècle of Louis le Grand, for whom numerous fine works of art were executed by the Parisian goldsmith Claude Ballin, who, together with Labarre, Vincent Petit, Julian Desfontaines, and others, worked in the Louvre. One of the objects, which greatly employed the ingenuity of the jeweller at this period, was the "aigrette," which was generally worn by the nobility. From this time the style of the French jewellery rapidly declined, until the general destruction caused by the great Revolution opened the way for the improvement in taste which commenced under Napoleon, and which has steadily progressed to the present time, when the works of Vechte, Froment Meurice, Morel, Lebrun, Marrel, Rudolphi, Odiot, and others, have completely revived the old reputation of the country.

Owing to peculiar circumstances, the manufacture of jewellery in France is chiefly concentrated in the capital, and forms, perhaps, the most important branch of the "Industrie Parisienne." We propose, therefore, to give a

few details respecting the present condition of the art, for which we are chiefly indebted to the valuable work published by the Chamber of Commerce, "La Statistique de l'Industrie de Paris." The progress made in the art of refining, of combining alloys and of working the metals, as well as the influence of the arts of design, have caused a remarkable developement of the goldsmith's and jeweller's art; and a great increase in the number of purchasers has taken place, caused by the division of property, by which means, though the individual purchases may in themselves be trifling as compared with the lavish outlay of the wealthy nobility of former times, the aggregate expenditure is far greater. The increase in the number of purchasers has chiefly arisen among a class possessed of moderate means; and to this circumstance it may be attributed that, while the intrinsic value of the articles has diminished, they are rendered attractive by superior design and execution, and the workmanship even of the imitation jewellery is almost equal to that of the real.

The improvement in the habits of life amongst the people, and the greater spread of the means necessary to indulge in articles of luxury, have caused an immense extension in the use of table-plate amongst the agricultural population of France; from this increase of demand great economy has been introduced in the manufacture, and a proportionate reduction in price has been brought about.

A division of gold into three standards was made by a law of the 19th Brumaire, An VI., and is still in force. The first, of 920 parts of pure gold to 80 of alloy; the second, of 840 of gold to 160 of alloy; and the third, of 750 of gold to 250 of alloy. The two first are rarely used, all jewellery being made of the latter standard. An allowance of two per cent is made from this standard in practice, resulting from the employment of solder, as an alloy to be sufficiently fusible for that purpose must not contain more than fifty per cent of pure gold. The assay is made by the test-needle or touchstone, and a duty is charged by the Government for marking the articles.

Jewellery manufactured expressly for exportation can be exempted from the stamp duty, but must, nevertheless, be of standard quality: a drawback is allowed on articles for exportation on which the duty has been paid. Jewellery, if foreign manufacture, though of inferior standard, is admissible into France, when marked with a punch, indicating the locality of its production; nor is any particular standard required. In silver, two standards are fixed; the first, of 920 parts of pure silver to 80 of alloy; the second, of 800 of silver to 200 of alloy. The former is employed in heavy plate; the latter for jewellery and embossed work. The greater part of the jewellery and plated work is executed in small workshops, or by men working single-handed on their own account. The goldsmith's work, on the contrary, is chiefly carried on in large *ateliers*.

The importance to Paris of these branches of manufacture, in a commercial and industrial point of view, may be estimated from the statement, that in 1847 works to the value of 134,830,276 francs were executed, giving employment to 16,819 workmen and 2392 masters: of these, real jewellery occupied 4401; imitative, 2182. Amongst the 16,819 were 4101 females, the highest wages of whom were 6 francs per day, and the lowest 75 cents; the highest wages of the men amounted to 15 francs, and the lowest to 1 franc per day.

752 men receive less than 3 francs per day.
8769 receive from 3 to 5 francs.
1204 receive more than 5 francs.
Of the females, 3469 gain from 75 cents to 3 francs.
81 gain more than 3 francs.

The respectability of these classes is satisfactory. Of the men who can read and write there are 96 per cent; of the women, 86 per cent: the children, previous to their apprenticeship, are sent to the commercial schools, where they at least begin linear drawing. Many improve themselves by attending in the evening drawing and mathematical classes; and thus it is that taste has been daily more and more developed in the Parisian manufacture.

F. SMALLFIELD, DEL.

M. DIGBY WYATT, DIREXT.

F. BEDFORD, LITH.

SPECIMENS OF SILVERSMITHS WORK BY MARREL FRÈRES OF PARIS

LONDON PRINTED AND PUBLISHED MARCH 15TH 1853 BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE CLIV.

SPECIMENS OF HONITON LACE,

BY MRS. TREADWIN OF EXETER.

In preceding notices (of Plates XXX., CII., and CXLVI.,) we briefly treated the subjects of "run," "machine-made," and "point" lace; and on the present occasion we propose to complete the series by a few observations on what is commonly known as "bone" or "pillow" lace. The peculiarity of this fabric consists chiefly in the process by which it is manufactured, and which may be thus described in general terms. A pattern having been drawn upon a piece of parchment, which is laid upon a hard pillow, pin-holes are made in the parchment in the lines of the ornament, so as to serve as a guide for the subsequent operations of the manufacture. A number of threads attached to the pillow are then ingeniously wound and twisted round one another, each thread being gradually unwound from the small bobbin or "bone" to which it is attached, as it is used up in the working out of the pattern, and secured as it is twisted by the insertion of pins in the marked pin-holes. From time to time as portions of the work are completed, the pins which kept them in place are removed, and inserted in other parts of the ornament, which are again made out by the twisting of the threads, and so on until the whole is completed. Drawing out the whole of the pins releases the finished fabric at once from the pillow and from the parchment, which served only as a guide for the operative in making the lace. As on the order in which the several bobbins are taken up and twisted round one another, must obviously depend the intricacy and regular texture of the fabric, it is in that department that the great skill of the workwomen is shown, and some are so expert as to be able even in a large piece of work to contrast the fillings in of the pattern in apparently infinite variety. Certain particular formulæ obtain, however, more extended popularity than others, and lead to the establishment of certain recognised meshes, which, when used as the plain work upon which the ornamental parts are relieved, are distinguished by the trade as "grounds" of various kinds, such as Mechlin, Old Mechlin, Brussels, "Trolly," "Wire," &c.

Some writers have inferred that this manufacture commenced at so early a period as the fifteenth century, but it is probable that they have been led into this apparent fallacy by the confusion which exists in ancient documents in the application of the term "lace." There seems little reason for doubting the direct testimony of Beckmann, that the art of bone-lace making was invented by one Barbara Uttman, a native of St. Annaberg, in Saxony, in the year 1561. From the Electorate, in which at that time every novelty and luxury were most extensively patronised, the art found its way into the Netherlands, where it speedily assumed an established position as one of the staple manufactures of the country. The fabrics wrought at Mechlin, Brussels, Valenciennes, and Lisle, greatly interfered with the demand for the point-lace of Venice and Genoa, and rose in universal estimation, until at last even fabulous prices came to be given for this remarkable product of Flemish ingenuity. Some refugees from Flanders, in the year 1666, carried the art to France during the administration of the great Colbert, and, under the auspices of the celebrated Madame Dumont and her four daughters, the manufacture became firmly established in that country.

Although it is probable that the art was brought into England by some Flemish refugees who settled at Cranfield, a village on the western borders of Bedfordshire, no direct evidence exists upon the subject. Certain it is, however, that in the year 1626 the free school of Great Marlow, in Buckinghamshire, was endowed, "To

teach twenty-four boys to read, &c., and twenty-four girls to knit, spin, and make *bone*-lace." There exists ample evidence, not only that the home trade had grown into a flourishing condition by the end of the seventeenth century, but that it had even become extended into an export one.

With regard to that particular variety of lace of which the objects engraved presented so admirable a specimen, we are happy to have it in our power to give some interesting information upon the subject, derived from the lady whose exertions have done so much to elevate the character of Devonshire work. In her valuable communication Mrs. Treadwin informs us, that "The lace-trade has been carried on in Devonshire for more than two hundred years, for there is in the churchyard of Honiton a stone in memory of James Ridge, bone-lace dealer, who died in 1617, and left a sum of money for the benefit of the poor of Honiton; and in a book mentioning two great fires which occurred in 1756 and 1767 in Honiton, the suffering of the many employed in lace-making are spoken of. Although the lace-trade at that time was extensive, it must then and for a long time after have principally consisted in producing the nett or Honiton ground (a nett much like the present machine nett), in which the sprigs first separately made were worked in on the pillow. This kind of nett was very expensive, and one of the old people formerly in the trade showed me a piece about eighteen inches square, which she had had made just previous to the machine netts coming into use, and which then cost her in making fifteen pounds, although it was *plain* nett *only*. From the great difference of price, as the same size piece of lace at the very commencement of its manufacture by machinery was sold for about as many shillings, and now for fewer pence, the trade of hand-made nett was completely destroyed, and I know of but two now alive in Devonshire who can make it. The sprigs and edges still continued to be used, being sewn on the machine nett; but little, however, was done in this way, and the great change was the occasion of much suffering throughout the country, as in the endeavour to compete with machinery the prices were brought so low that a pittance sufficient to sustain life could not be obtained by it. In this depressed condition it remained for about twenty years, until Queen Adelaide was pleased to order a Honiton lace dress, made of Honiton sprigs sewn on machine nett. This revived the trade but little, since few followed her example. It still got on slowly, rather improving, but employing comparatively few persons, until our present Most Gracious Majesty ordered her bridal dress to be made of Honiton lace. This dress was made of Honiton sprigs, connected together by a variety of open works, &c., and all worked on the pillow by hand; it was made at Beer, a small village near Seaton, on the coast of Devon. From the date of that order the manufacture revived, until from employing only a scattered few it affords a good livelihood to the majority of the female labouring population in that part of Devon which may be enclosed by a line from Seaton to Exmouth, up the river Exe to Exeter, back the London road to Honiton, thence to Seaton, including many thousand hands. Within the last four years the demand has been enormous, and at one time so far exceeded the supply that the quality of the work for the time materially suffered. So careless and indifferent are the great majority of 'hands' as to the beauty of their work, that I am invariably obliged to have any piece of work that I cannot give out a fac-simile to copy from, made in my own house, where I can hourly superintend the manner in which it is worked; in fact, during the time I was employed about the flounce engraved I did not leave my work-room at all during working hours. As to the character of the lace-workers, as a body they dislike regular work. I do not mean to say they are not industrious, but they have a great dislike to working anywhere where regular attendance at certain hours is required, preferring to work at home by the piece, so that they can begin or leave work as they please; and they are generally fond of dress, and careless of the future. For the last four years at least the earnings of an average lace-maker who worked a fair ten hours per day are above the wages of a farm-labourer, 7*s.*; really good hands get much more. As to their education, they can generally read and write; but, unfortunately, even in those villages which may be considered dependent on the lace-trade, no attempt is made to educate, or in any way promote, any taste useful in the manufacture. To avoid some of the evils, and implant a better taste among my own hands, I formed a school; but having completely failed in inducing the grown-up work people to improve, I was obliged to commence again about two years since with children from about twelve to fourteen years of age. Of course it will yet take some time to develope itself fully; but the progress they have made satisfies me that a little knowledge of drawing, and more regular habits of work being drilled into the workers, will very materially improve the kind of work they produce. There is not a professed lace-designer in Devonshire; my own I have procured until this last year from Paris, since then from Somerset House and Nottingham."

J. SLIEGH, DEL.

M. DIGBY WYATT, DIREXT.

SPECIMEN OF HONITON LACE BY MRS TREADWIN OF EXETER.

LONDON PRINTED AND PUBLISHED MARCH 7TH 1853, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CLV.

CABINET IN EBONY,

DESIGNED BY LIENARD, FOR RINGUET LE PRINCE OF PARIS.

The firm of M. Ringuet le Prince had successfully presented itself to public notice previously to the Great Exhibition of 1851, their efforts having been honourably rewarded in the French Expositions of 1839 and 1844. It has constantly been the practice of this establishment to obtain their designs from the best artists whose services they could enlist; and it is in a great measure owing to their steady adherence to that principle that their productions have obtained a considerable celebrity, and are held in general estimation amongst that public—so critical in matters of style and beauty—the Parisian population.

We have rarely had occasion to notice any piece of furniture more admirably finished, so far as truth of execution is concerned, than the cabinet we now engrave. The perfectly accurate execution of the mitres, the smoothness and clean cutting of the mouldings, and the varieties of texture given to the carving of the foliage, afforded admirable models for imitation, and greatly tended to a successful realization of M. Lienard's graceful design. The last-named gentleman, to whose talent is due not only the general design for this cabinet, but the execution of its small bas-reliefs, is one among the most distinguished of the decorative artists of Paris. The beautiful series of drawings displayed by him in the Great Exhibition demonstrated his originality as a draftsman; whilst his extraordinary specimens of minute carving in wood, representing subjects from the chase, afforded evidence that his executive ability was no less than that which he has long manifested as a designer.

We cannot better illustrate the subject of our present plate than by gathering from the great Government work on the Statistics of Industry in France a few notices on that branch, of which it presents so favourable a specimen; and which has not only constituted an important part of the export trade of Paris for many years past, but has acquired, through the skill of the workmen of the Faubourg St. Antoine, a world-wide reputation.

The most valuable kinds of wood are employed for cabinet-making, either solid or veneered, whilst walnut and other commoner descriptions form the material of what is termed furniture joinery. So great, however, is the connexion between the two, that they are commonly spoken of as cabinet-making, and are, therefore, treated under this general head; the several trades of veneer-cutters, inlayers, carvers, turners, &c. are employed by the cabinet-maker in preparing the different portions of his articles, the fitting together of which belongs to the cabinet-makers. The number of master cabinet-makers in Paris amounts to 1915, of whom 178 employ more than 10 workmen; 844 employ from 2 to 10 workmen; 448 employ 1 only; 445 work single-handed. The value of the business in 1847 is said to have amounted to 27,982,950 francs, and the aggregate number of workmen engaged to about 8559: 6386 working by the piece; 2173 working by the day; 13 working in other ways. Their daily wages were received in the following division:—162 received above 5 francs; 8390 receive between 3 and 5 francs; 7 receive below 2 francs, these last being men in distress. The maximum pay was 10 francs; the minimum, 1·25 franc per day. The larger salaries were received by the superior trades, such as carvers, decorators, &c. To this list should be added 340 boys and 90 women and girls; of the latter, 64 receive wages, 36 by the piece, 28 by the day; their maximum pay 4 francs, and their minimum 1·25, the mean rate being 2 francs. These females are mostly varnishers.

The eighth arrondissement of Paris appears to contain the greater number of the master cabinet-makers, who there, to the number of 1093, manufacture mostly for the supply of the retail furniture-sellers; the other arrondissements contain the remainder.

This trade suffered more than others in the unfortunate troubles of 1848. The value of the business fell then from 27,982,950 francs to 6,436,067, a reduction of 77 per cent; and amongst the workmen, out of the 9046, 7014 were discharged in the months of March, April, May, and June, or 78 per cent. The greatest sufferers were the minor masters, and those working on their own account. Not only was the trade interrupted, but a glut of the more ordinary articles of furniture was caused by the attempts of those thrown out of work to produce at their own risk; in consequence of these causes, prices fell 25 per cent.

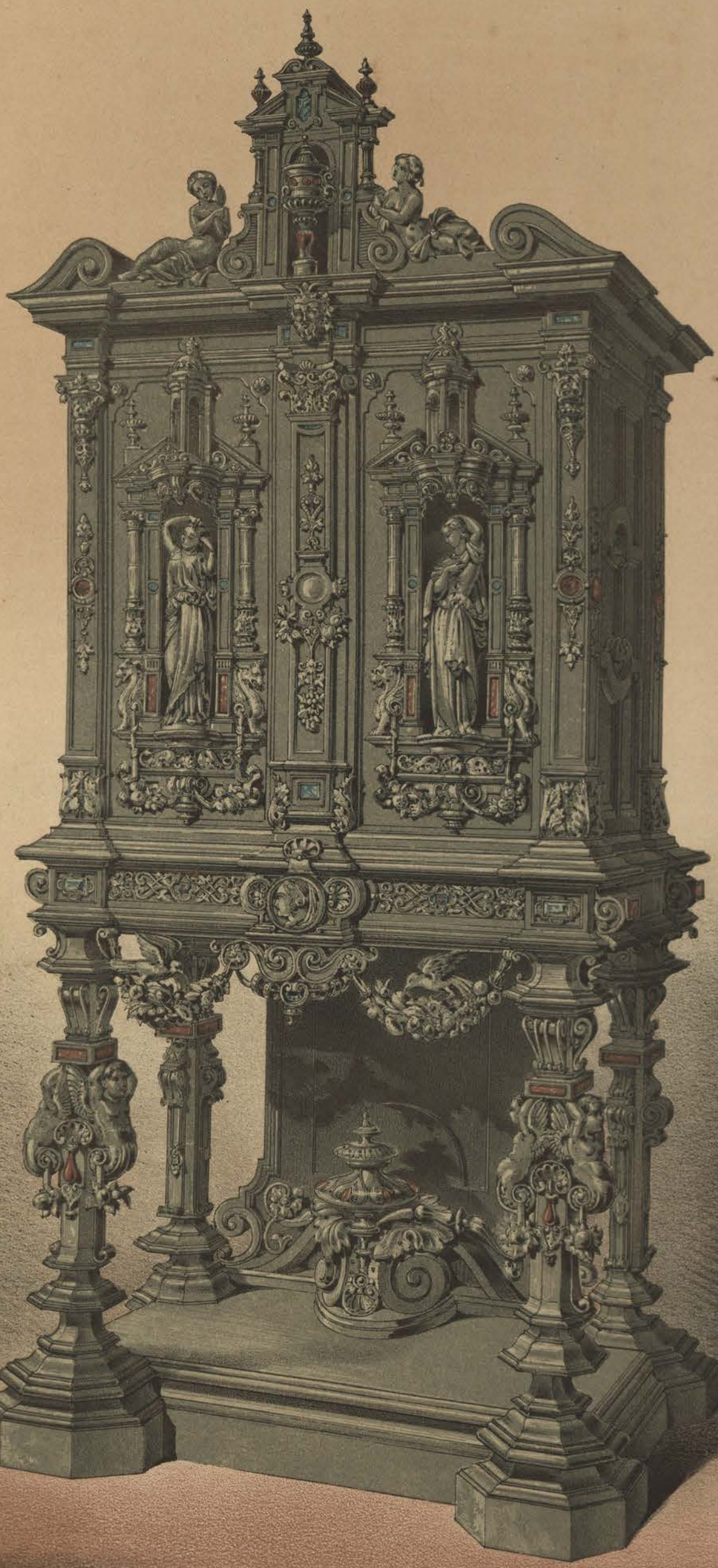
One of the particular characteristics of the cabinet-makers is the tendency that exists to become makers on their own account. As soon as they have amassed a small sum, or, being out of work, have got a credit with some wood-merchant, they commence working this capital in manufacturing furniture for their own sale; but not having any place where the public can inspect their goods, nor any connexion through which a sale can be effected, they are obliged, so as to pay their expenses and the debts they have contracted, to get rid of their stock by means of hawking. This consists in carrying about the article to be sold, either on the back or on trucks, and offering it to the passers-by or to the furniture-shops. Thus, loaded with a secrétaire, table, chest of drawers, or other article which they have made, the cabinet-makers come in the morning from the Faubourg Saint Antoine, directing their steps towards the Temple or the Rue de Cléry. Often do they wander about till the evening, selling nothing; then, fatigued with carrying about from early morning a considerable weight, obliged to return home, and afraid of not gaining the money often so necessary for existence, and also for paying for the material purchased on credit, they are obliged to let their goods go for a low price. Often, also, afraid of thus losing three or four days, which they might employ more profitably, they confide the piece of furniture they wish to have hawked to the Commissionaires of the Faubourg Saint Antoine. These Commissionaires are associated together, and if the speculation appears advantageous, they will make it on their own account; if not, they carry it about, seeking the highest bidder.

Many complaints are made of this species of trading. The manufacturers attribute to it the great reduction of price which has taken place in articles of furniture during late years. It would seem to arise from the absence of capital amongst those undertaking the execution of work, particularly amongst the minor masters: obliged to seek quick returns, they sell at any price. As this operation is continually taking place, after these sales a competition is established, to which all the makers have to submit.

This particular cause of lowness of price in cabinet-makers fell with greater force in 1848, during the crisis which weighed upon every trade. A great number of workmen were established on their own account, but being obliged to realise cash at a time when trade was almost annihilated, they lost all their savings. The misery of these smaller masters has been great: the larger number, burdened with wives and children, could hardly sustain them, and only lived by the help of the mairie.

The tendency of the workman to try to establish himself, without reflecting on the difficulty of succeeding without sufficient capital, has led to the formation of workmen's associations. One of them, formed on the 1st of October, 1848, obtained from the Commission charged with the division of three millions voted by the National Assembly for this species of help, a credit of 75,000 francs. Some other associations have also been formed amongst the workmen, having as secure partners the wood-merchants, who by that means sought to work off their stock.

In the condition of the workmen there is much improvement to be desired. Though the greater part are hardworking and respectable, many are very dissipated, and many will not work on the Monday. A great number of the workmen may be called moveable, and are generally composed of Germans. The immigration of Germans during the last twenty years has been considerable, and even forms an important portion of the settled population of France. During some years after 1830 great quarrels have frequently arisen between the French and German cabinet-makers; and the masters, for the sake of quiet, were compelled to compose their workshops entirely of Germans or entirely of French. This rivalry, however, seems in the present day to have calmed down.



P.H. DELAMOTTE. DEL.

W. DIGBY WYATT. DIREX.

F. BEDFORD. LITH.

EBONY CABINET DESIGNED BY LIENARD OF PARIS FOR RINQUET LE PRINCE OF PARIS.

LONDON PRINTED AND PUBLISHED MARCH 15TH 1853, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN.

PLATE CLVI.

ENAMELLED VASE,

BY HUNT AND ROSKELL OF LONDON.

We have already, in our notices of Plates XXVII. and CXVII., had occasion to notice the beauty of Messrs. Hunt and Roskell's execution of silversmiths' work in repoussé; and in the object which we now engrave we have an evidence of the skill with which, by means of enamel, they have succeeded in adding the beauty of colour to their otherwise excellent mechanical execution.

The cover of this rich vase is capable of being removed, so as to convert the whole into a receptacle for flowers. The group on its summit represents Zephyr and Flora; on the upper part are the heads of Bacchus, Ariadne, and Pomona; on the handles are Cupids and festoons of fruits; and the four medallions around the body of the vase represent the Seasons: the whole of the ornaments being thus designed in graceful allusion to the purposes of the object.

It is much to be regretted that, until lately, but few efforts have been made in England by gold and silversmiths to enrich their works, by reviving the extinct, or rather dormant processes of the enameller's art. We have already offered several notices of the manipulative processes anciently employed in this art, and we purpose, on the present occasion, to complete the series, by tracing the developement of the later French School, and the progress which has been made generally in the art in comparatively modern times.

About the end of the fourteenth century, the artists of Limoges found not only that their productions had entirely gone out of fashion, but that almost every goldsmith either imported the translucid enamels from Italy, or executed them himself with more or less skill, according to his talents. In this state of things, instead of attempting to enter into such a universal competition, they invented a new manufacture of their own, the processes of which belonged solely to the enameller, and enabled him to dispense entirely with the burin of the goldsmith. The first attempts were exceedingly rude, and very few of them remain for our inspection; but that the art progressed with slow and feeble steps is evident from the fact, that it is not until the middle of the fifteenth century that the specimens are to be found in any quantity, or possessing any degree of merit. The process was this:—The design was traced with a sharp point upon an unpolished plate of copper, which was then covered with a thin coat of transparent enamel. The artist, after going over his tracing with a thick black line, filled in the intervals with the various colours, which are, for the most part, transparent,—the black lines performing the office of the gold strips of the cloissonné work. The carnations presented the greatest difficulty, and were first of all covered all over with the black colour, and the high lights and half-tints were then modelled upon that with an opaque white, which occasionally received a few touches of light transparent red. The last operation was to apply the gilding, and to affix the imitations of precious stones,—almost the last trace of the Byzantine school, which had formerly exercised so much influence in Aquitaine.

The appearance of the finished work was very similar to that of a large and coarse translucid enamel; a resemblance not unlikely to have been intentional, more especially as specimens of the latter were never made of any considerable size, and were therefore unfit to supply the place of ivory in the construction of those small triptychs which were so necessary an appendage to the chambers and oratories of the rich

in the middle ages. Accordingly we find nearly all the early painted enamels are either in the form of triptychs or diptychs, or have originally formed parts of them; and a great number preserve their original brass frames, and are supposed by antiquaries to have been produced in the *atelier* of Monvearni, as the name or initials of that master are generally found upon them. As to the other artists, they followed, unfortunately, the but too common practice of most of the workmen of the middle ages, and, with the exceptions of Monvearni and P. E. Nicholat, their names are buried in oblivion.

At the commencement of the sixteenth century the Renaissance had made great progress, and among other changes a great taste for paintings in "camaieu," or "grisaille," had sprung up. The *ateliers* of Limoges at once adopted the new fashion, and what may be called the second series of painted enamels was the result. The process was very nearly the same as that employed with regard to the carnations of the earlier specimens, and consisted in firstly covering the whole plate of copper over with a black enamel, and then modelling the lights and half-tints with opaque white; those parts requiring to be coloured, such as the faces and the foliage, receiving thin glazes of their appropriate tints—touches of gold are almost always used to complete the picture, and occasionally, when more than ordinary brilliancy was wanted, a thin gold or silver leaf, called a "paillon," was applied upon the black ground, and the glaze afterwards superposed.

All these processes are to be seen in the two pictures of Francis I. and Henry II., executed by Leonard Limousin for the decoration of the Sainte Chapelle, but which have now been removed to the Museum of the Louvre. Limoges, indeed, owed no small debt of gratitude to the former monarchs, who not only established a manufactory in the town, but made its director, Leonard, "Peintre, émailleur, valet de chambre du roi," giving him at the same time the appellation of "le Limousin," to distinguish him from the other and still more famous Leonardo da Vinci; and indeed the Limousin was no mean artist, whether we regard his copies of the early German and Italian masters, or the original portraits of the more celebrated of his contemporaries, such as those of the Duke of Guise, the Constable Montmorency, Catherine de Medicis, and many others,—executed, we must remember, in the most difficult material which has ever as yet been employed for the purposes of art. The works of Leonard extend from 1532 to 1574, and contemporaneously with him flourished a large school of artist-enamellers, many of whose works quite equalled, if they did not surpass, his own. Among them we may mention Pierre Raymond, and the families of the Penicauds and the Courteys, Jean and Susanna Court, and M. D. Pape. The eldest of the family of the Courteys, Pierre, was not only a good artist, but has the reputation of having made the largest-sized enamels which have ever been executed (nine of these are preserved in the Museum of the Hôtel de Cluny; the other three, M. Labarte informs us, are in England, but he does not mention where) for decorating the façade of the Château de Madrid, upon which building large sums were lavished by Francis I. and Henry II. We should observe, that this last phase of Limoges enamelling was not confined, like its predecessor, to sacred subjects, but, on the contrary, the most distinguished artists did not disdain to ornament vases, caskets, basins, ewers, cups, salvers, and a variety of other articles of every-day life, which usually derive their decoration from the silversmith. The material of these was simply thin copper, which was afterwards entirely covered with the black enamel, and then decorated with medallions, &c. in the opaque white. At the commencement of the new manufacture the subjects of most of the enamels were furnished from the prints of the German artists, such as Martin Schoën, Israel van Mecken, &c. These were afterwards supplanted by those of Marc' Antonio Raimondi and other Italians, which in their turn gave way about the middle of the sixteenth century to the works of Virgilius Solis, Theodore de Bry, Etienne de l'Aulne, and others of the *petits-maîtres*.

The production of the painted enamels was carried on with great activity at Limoges during the whole of the fifteenth, sixteenth, seventeenth centuries, and far into the eighteenth, when it finally expired. The last artists were the families of the Nouailhers and Laudins, whose best works are remarkable for the absence of the paillons, a somewhat undecided style of drawing, and, finally, a great use of the brush in stippling. Many of the more common articles manufactured in the eighteenth century are exceedingly carelessly executed, and we can scarcely wonder that they were discarded in favour of the beautiful porcelain which about this time was first made in considerable quantities in Europe.

POZZI, DEL. M. DIGBY WYATT DIREXT. F. BEDFORD LITH

ENAMELLED VASE BY HUNT AND ROSKELL OF LONDON

LONDON, PRINTED AND PUBLISHED MARCH 15TH 1853, BY DAY & SON, LITHOGRAPHERS TO THE QUEEN

PLATE CLVII.

IVORY THRONE AND FOOTSTOOL,

PRESENTED TO HER MAJESTY THE QUEEN BY HIS HIGHNESS THE RAJAH OF TRAVANCORE.

This admirable specimen of Oriental art is no less remarkable for the skill displayed in its design and execution, than for the intrinsic beauty and value of the material employed; which has, indeed, rarely been devoted to a purpose so important and magnificent. In the Great Exhibition of All Nations this exquisite production could not fail to obtain the notice and admiration which it so highly merited; and as the fidelity of our engraving leaves us nothing to say upon the characteristic merits of the object represented, we shall at once proceed with the historical sketch of the commerce of India, which, in our notices of Plates CXL. and CXLIX. was brought down to the year 1600, when the British East India Company was originally established.

The charter under which this important company was first incorporated granted them the exclusive English trade for a period of fifteen years. Their first expedition of five ships sailed in 1601, and returned with valuable merchandise in two years, after making important negociations with the local rulers, and capturing a Portuguese carrack. As early as the year 1608, Dacca, the principal seat of the cotton manufacture of India, was made the capital of Bengal. In 1612, an English factory was established at Surat, in Western India, by permission of the Mogul court of Delhi; and through the competition of European nations to monopolise the Eastern trade, this and other factories subsequently became, in fact as well as name, Forts for the promotion of that object, and for the acquisition of territorial dominion.

Previously to the establishment of the English Company the exportation of bullion for the purchase of foreign produce had been forbidden by the legislature. The Company, however, by their charter, were allowed that privilege to the extent of 30,000*l.* annually; and serious objections arose to the exercise of this exclusive right. Mr. Mun, however, a Director of the Company, replied to them with much ability, and in the year 1663 the prohibitory statutes were entirely repealed. The same gentleman incontestibly refuted the arguments which had been urged against the new route by the Cape of Good Hope, by a tabular statement of the cost of transit, as compared with the route by Syria or Egypt; showing also that in 1620 the imports of the English Company, which cost only 356,228*l.*, had produced in this country 1,914,600*l.*

We have not space to advert particularly to the circumstances which led to the decline of the Portuguese influence in India, and to the extension of that of the Dutch; who, by their vigorous, though somewhat unscrupulous exertions, succeeded in establishing their own supremacy in the East, to the great injury of English commerce. The British Company were not, however, altogether inactive. In 1640, Fort St. George was erected; in 1645, the important factory at Hoogly was established; and in 1658, Madras was constituted a presidency.

Passing over the war with Holland, and the compensation obtained from that country in 1654, as rather of general than commercial interest, we may observe that Charles I. granted a charter to a rival company; but the two establishments were united in the year 1649, and in 1657 Cromwell renewed the charter, imposing certain restrictions upon a private trade in which some spirited adventurers had embarked. King Charles II., in 1661, conferred upon the Company the power of making peace and war, of establishing

colonies, and of exercising civil and criminal jurisdiction in their settlements: but these and similar privileges failed to check the efforts of private competition.

About this period (viz. in 1666), Tavernier visited India; and he has left us an interesting and often-quoted narrative of his own proceedings, and of the arts and manufactures of the country. His description of the court of the Great Mogul at Delhi is full of interest; but, as more immediately bearing on our subject, we may cite some of his observations on the muslins of Dacca, where a factory had then been erected, subordinate to that of Hoogly. He describes these fabrics as being "so thin and light as scarcely to be felt in the hand; for they will spin the thread so fine that the eye can hardly discern it, or, at least, it seems to be but a cobweb." Of the *jhuna*, one of the finest of these fabrics, he observes, that "it is a sort of calicut, which is so thin that, when a man puts it on, his skin shall appear through it as if he were naked. The merchants are not permitted to transport it, for the governor sends it all to the seraglio of the Great Mogul and to the principal lords of the court. Of this the sultanesses and the great noblemens' wives make them garments in the hot weather, and the king and the lords take great pleasure to behold them dance in these garments." He further states, that the Persian ambassador, on his return home from India, carried with him "a cocoa-nut shell, about the size of an ostrich egg, studded with pearls, and, on opening it, it was found to contain a turban of Indian muslin 60 cubits long."

Anticipating our general narrative, and adopting the valuable authority of Mr. Taylor, we may here observe, in reference to Dacca, that in the latter part of the seventeenth century that city was the great emporium of eastern India. During the Mogul dynasty, which terminated in 1764, the *mulmul khas* and other choicest fabrics of this locality were, as Tavernier implies, exclusively reserved for the royal wardrobe; but, subsequently, the cotton goods of Dacca were so largely exported that the value of the English traffic in them in 1678 was 160,000*l.* So rapidly did this trade increase, that about the year 1700 it was thought necessary to protect the rising cotton manufacture in this country by a duty of 15 per cent upon Indian muslins; which, nevertheless, continued to be in great demand in England. One of the charges of Edmund Burke against the East India Company was, that they advanced money to the Dacca weavers for more work than they could perform, so as to secure a monopoly of their services, and to raise the price of the goods; and it is clear that the system was defective from the fact, that in the year 1787, when, in consequence of Burke's complaints, a commercial resident had been appointed, the Dacca trade amounted to the unprecedented sum of 1,562,500*l.* The gradual competition with English cotton, however, towards the close of the last century, led to a rapid decline in the trade of Dacca; and although the excellence of its productions is now as great as ever, local manufacture has continued to decrease, until the population of the town, which in 1800 amounted to 200,000, was reduced, in 1838, to 68,000. The commercial residency was abolished, and the factory closed in 1817.*

The general commerce of England with the East was promoted, in the year 1668, by the Company's acquisition of the island of Bombay, and by their first extensive importation of tea in the same year, about which time the charter was again renewed. About 1690 the Company were successful (though in litigation only) against the private traders, who had long interfered with their monopoly. Sir Josiah Child, the managing director in England, first propounded a magnificent scheme for the formation of a great territorial empire in India; but an expedition with that object, in 1686, was unsuccessful. In 1692 the Bengal agency was transferred from Hoogly to Calcutta, and in 1693 a fresh charter was granted. Soon afterwards a rival company was formed, and a competition arose as to the terms of a loan to be granted to the Government. A compromise between the competitors ensued, and they were united by authority of Parliament in 1702, under the title of "The United Company of Merchants of England trading to the East Indies." Although the commercial benefits of the Company were open to much doubt and opposition, they obtained further charters in 1730 and 1743, and about a century ago embarked, under Clive, in that successful conflict with France for supremacy which added so largely to their territories. The history of the Company from this time till the year 1814 is one of mismanagement, of opposition, and of political details, which do not fall within the scope of the present work. We may merely state, that on the further renewal of the charter in 1793 private individuals were allowed to trade to India in the Company's ships; and when in 1814 the commerce with the East was virtually thrown open, it was attended with so much success, that in a very short time it amounted to three times its former value. The last extension of the charter, from 1834 to 1854, finally terminated the commercial character of the Company.

* Taylor's "Account of the Cotton Manufacture of Dacca, in Bengal." 8vo. 1852.

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F. BEDFORD, LITH

IVORY THRONE AND FOOTSTOOL, PRESENTED TO HER MAJESTY THE QUEEN, BY HIS HIGHNESS THE RAJAH OF TRAVENCORE.

LONDON. PRINTED AND PUBLISHED MARCH 15TH 1853, BY DAY & SON LITHOGRAPHERS TO THE QUEEN.

PLATE CLVIII.

BEDSTEAD IN ZEBRA-WOOD,

BY CARL LEISTLER AND SON OF VIENNA.

The artist, by whom the entire series of sumptuous objects displayed by Messrs. Leistler was designed, is a native of Ticino, in Italy, a locality already remarkable for having given birth to his uncle, the celebrated ornamentist Giocondi Albertolli, to whose refined taste, as a draftsman, the modern Italians are mainly indebted for the delicacy with which the acanthus and their general foliage is drawn, and the care with which it is academically studied. From an early age M. Bernardo di Bernardis was reared to tread in the footsteps of his uncle, and was sent to study his profession at Milan and Rome. On completing his education in the year 1840, he was induced to visit Vienna, where, in partnership with his friend and fellow-townsman, Antonio Martinelli, he established himself as an architect. These gentlemen conjointly undertook and carried out successfully many important works; and when Messrs. Leistler determined to produce for the Great Exhibition some choice specimens of their capabilities as manufacturers, regardless of expense, M. di Bernardis was applied to to give the general designs for the furniture contributed by them, and to superintend the carrying out of its details.

Although scarcely equal in perfect execution to the best of the articles produced either in England or France, Messrs. Leistler's furniture displayed a great facility and command of the ordinary resources of cabinet-makers' work. The boldness with which the most elaborate ornaments have been swept, the fineness of the joints at the fittings, the sharpness of the arrises, and the general truth of the work, left little to be desired; and although the design appeared somewhat florid, it yet evinced great knowledge and facility on the part of its designer. In some of the criticisms which have appeared in reference to the character of the design of the object now engraved, scarcely sufficient allowance, as we conceive, has been made for the intensely aristocratic associations connected in the minds of the Austrians with all that appertains to nobility and the demands of the higher classes for objects of the most magnificent description.* The design of this object has been judged by the rules which would apply to an ordinary four-post bedstead; whereas it should be remembered that such a bed is essentially a *lit de parade*, and far more constructed for show than for utility. The state bedroom of a German princely house forms, almost invariably, one of the suite of show-rooms, and is rarely tenanted by the proprietor. Hence an amount of license might be claimed for the designer of this work, whose object was rather to convey the idea of the sumptuous profusion of wealth in connexion with the supply of the ordinary wants of life than to construct an actual, useful, working bed.

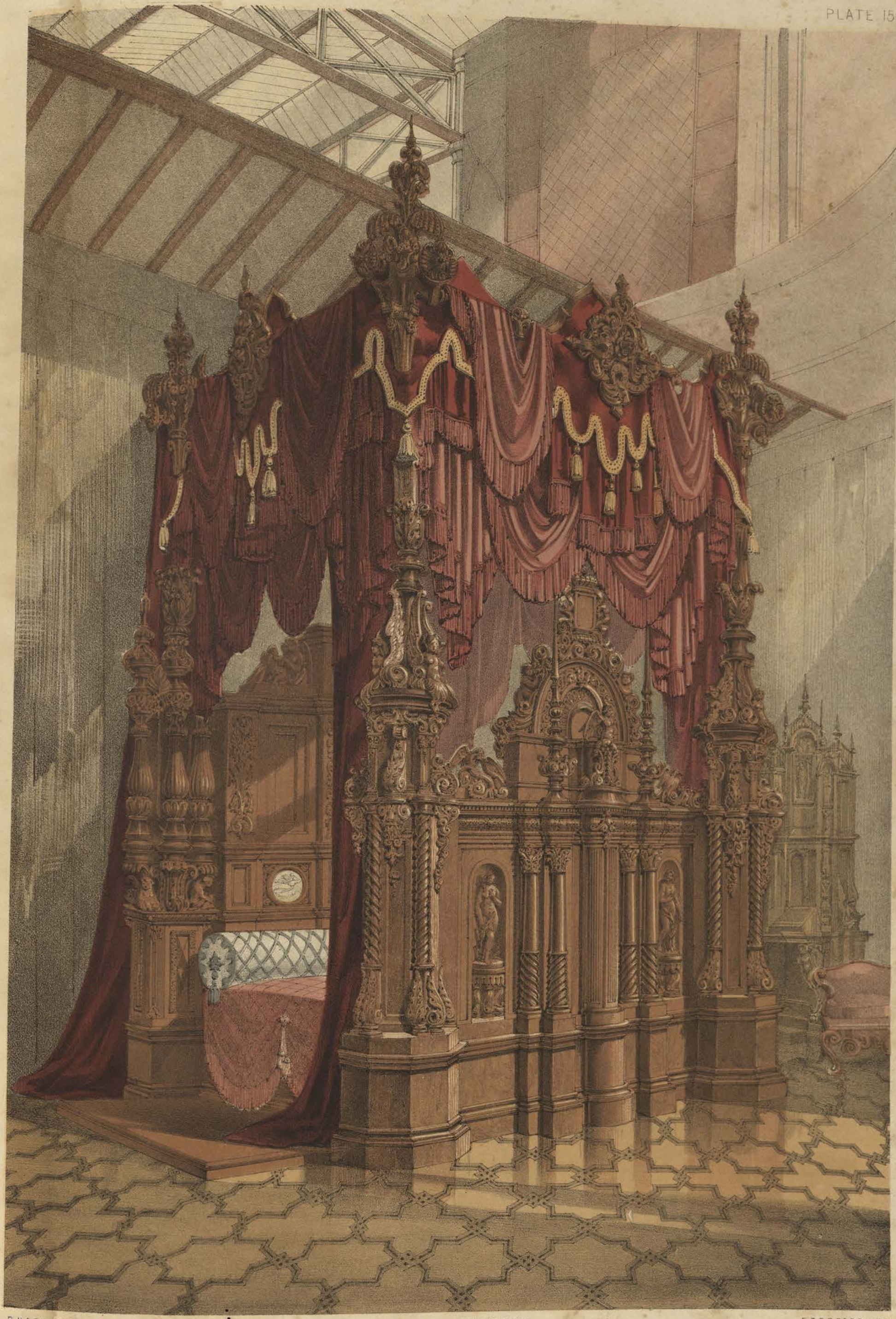
It is singular to remark how little the spirit of the classical revival, which was so vehemently indulged in in France, has at any time seized the imagination of the Austrian artists. The impression conveyed by an inspection of the principal palaces of Vienna, and of their furniture, recalls to the mind of the visitor rather the extravagances and caprices of Bernini and Borromini than either the rococo of Louis XIV. and XV., or the severity of the age of the first French Republic,—a period in which, as M. Dupin remarks, "by the same rule

* One of the most lively remarks of this nature (even more piquant than the observations of Mr. Redgrave, in his Report on the Fine Arts of the Exhibition,) was made in the hearing of the author by a Frenchman, who observed, "Que c'était un lit dans lequel on ne pourrait même bailler sans casser un Cupidon."

which caused Greek and Roman names to be given to the citizens to replace those they had received in baptism, it was decreed that the wives of Cassius and Brutus, of Aristides and Themistocles, should attire themselves like Aspasias, and dress their hair à la Titus. When the children of Mars tried the costume of the Roman soldier, the furniture of ancient Latium and Greece was no less necessary for the citizens, Cato, Cincinnatus, and Phocion. Then it was that attempts were made to imitate the forms of the furniture and interiors of Herculaneum and Pompeii; to advertise his skill in the adaptation of which one of the most celebrated upholsterers of Paris inscribed over his shop a statement that there were made the most ancient goods, in the newest style." It is no less singular to observe how little the Viennese appear to have been affected by the impulse given to Prussian art by Schinkel, or the various phases assumed by the art of Munich under the influence of Von Klenze, Gaertner, or Ziebland. If the term "style" can be applied at all to the peculiar forms of the articles manufactured by Messrs. Leistler, we should feel tempted to designate it as a Frenchified version of the Italian style of the beginning of the seventeenth century.

Although manufactories approaching in importance to those of Messrs. Leistler exist in some few of the principal towns of the Austrian empire,— such as Prague, Budweis, Plass, Dobrzisch, and also at Dernes in Hungary, — by far the greater portion of all furniture involving any amount of artistic display is made in the capital. It may be imagined, therefore, how large and important are the transactions conducted by Messrs. Leistler. Highly patronised by the Court and the principal nobles, those gentlemen have long been engaged in the production of all that is most rich and elaborate. Their greatest work has, however, been the entire fitting up of the Leichtenstein Palace, which was built by Mr. Desvignes, an English architect, and which contains a suite of rooms which, for gorgeous decoration, can scarcely be rivalled in any of the other capitals of Europe.

In addition to the object engraved, with its immediate accompaniments, the series contributed to the Exhibition by Messrs. Leistler comprised the entire fittings of four rooms, namely, a dining-room, a library, a drawing-room, and an ante-room. In the dining-room the most important object was a table in zebra-wood, sufficiently large to accommodate forty persons, and executed in the richest and most florid style. In the library was displayed a Gothic book-case, carved in oak, presented to her Majesty the Queen by the Emperor of Austria; and the series, indeed, embraced all the principal appendages of a princely mansion, even to the floors, which were of beautiful parquetry. It is due to M. di Bernardis to add, that the bedstead which forms the subject of our Plate was the most appropriate and successful of these works, and formed a feature that will be long remembered by the myriads who visited the Exhibition of All Nations in 1851.



P. H. DELAMOTTE DEL.

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BEDSTEAD IN ZEBRA-WOOD BY CARL LEISTLER & SON OF VIENNA.

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